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THE PRESENT STATUS OF HOME ECONOMICS EDUCATION

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In the recent progress of home economics education there have been two general lines of development which are worthy of attention: first, the scientific measurement of results; second, a noticeable tendency to reorganize the home economics course of study from a wholly educational point of view.

The movement for the scientific measurement of results in education has become an established and recognized thing. Discussions of the value and need of scientific measurement have been many in educational writings. Scientific measurement has been applied to many subjects and more recently to the "special" subjects. Until two years ago there was no attempt to apply scientific measurement to home economics. Since that time, two accounts of attempts at quantitative measurement in clothing and textiles have been published. In 1919, Dr. Katherine Murdoch published the results of an investigation in hand sewing, "The Measurement of Certain Elements in Hand Sewing." This includes a scale for measuring six stitches: hemming, basting, running, backstitch, overcasting, and combination stitch. There were 854 samplers used in the construction of the scale. Fifteen different qualities were determined by careful mathematical calculation. Numerical values were determined mathematically for each of these fifteen qualities. This piece of work marks a definite step toward tne measurement of results in the teaching of sewing.

In 1920, a report of certain investigations carried on by the Home Economics Department at the University of Chicago were published in a monograph, "Home Economics in American Schools." This includes a scale for the measurement of ability in machine sewing. The scale consists of photographic reproductions of samples of machine-made hems and French seams. The scale is analytic in character. Five factors which contribute to a well-made hem or a French seam are

considered separately: tension, length of stitch, neatness, spacing, and constructive elements. Three qualities for each of these five factors are shown in the scale, and each quality has a numerical value. It is assumed that the average score for the five factors is the score for general merit. This report also includes a table showing each possible score translated into school marks.

Other work in the scientific measurement of results in home economics education is being carried on at the present time. A scale for judging buttonholes is being worked out by the Bureau of Educational Measurements and Hazel K. Stiebling, Department of Home Economics, Kansas State Normal School. Accompanying the scale, there will be a diagnostic chart. This consists of a group of nine buttonholes, each of which is satisfactory, except for the conspicuous lack of one element necessary to a good buttonhole. By comparing a buttonhole with the chart, a pupil can readily see where to give attention in order to improve her workmanship.[1]

Rosamond C. Cook, Iowa State College, is making a similar investigation, the purpose of which is, in part, to make a scale for ability in using one sewing machine attachment, the tucker.

It will be noted that these are attempts to measure skills required in clothing construction. It is simpler to measure skill in hand and machine sewing than in the other abilities involved in home economics education. Skill may be measured more accurately than the asquisition of information, appreciations, or problem-solving abilities because of the objective results obtained. Certain skills are required in cooking as well as in sewing. Unfortunately from the nature of the result, it is impossible to construct a scale to judge cooking. Very obviously it would not be practical to construct a permanent scale of food stuffs. However, in time, some scheme may be devised by which skill in cooking can be measured.

The investigation described in "Home Economics in American Schools" includes an attempt to measure the acquisition of information in textiles and clothing construction and reasoning ability in textiles, dress design, sewing, and house planning. The work was in a preliminary stage, but the report shows the possibility of developing other tests, and such tests will undoubtedly be designed.

The second noticeable change in home economics education is the tendency to reorganize the course of study from the educational point

[1] Both the chart and scale will be available shortly from the Bureau of Educational Measurements, Kansas State Normal School, Emporia, Kansas.

of view. This is by no means a new movement, but within the past year it has received fresh attention. Indications of this new interest in the course of study are found in the writings of home economics workers and in the addresses given at professional gatherings.

At the meeting of the American Home Economics Association, February, 1921, Mrs. Calvin emphasized the fact that we must make home economics teaching function in the life of the girl to show her how to control her environment. Mrs. Allan, a high school principal, said: "Our girls do not need advanced cooking and sewing but they need great emphasis on the social side of the home, on appearance. . . . . The economics of buying appeals to girls. They all buy clothes, rugs, china, and pictures, and know nothing about any of them. Why do we leave them to buy at the mercy of fashion?" The following questions were subjects for round table discussion at the Indiana Home Economics Association meeting. "Is it possible to find a body of subject matter which will be equally useful to all types of a high school group? Is the first year the best place in the curriculum for a required course? What is necessary to give the girls the type of training which they will require for their own immediate needs?" These and other questions and statements, made by educational administrators and home economics leaders, indicate the tendency to investigate the content of the home economics course.

Other indications of the tendency to reorganize the content of the home economics course are the changes in many elementary school cooking courses of study. Formerly, the emphasis was upon skill in cooking and upon the acquiring of information. The present tendency is to emphasize the relation of food to health. The Elementary School Journal, Nov., 1921, published an article "Methods of Health Instruction in the Second and Third Grades," by Carolyn Hoefer. The article discusses the health principles to be taught and recommendations for teaching health principles and measuring the results. Many health habits are discussed, but the importance of proper food is emphasized. Bailey B. Burritt, in "The Place of the Nutrition Worker in the Health Program," Journal of Home Economics, December, 1921, says: "We have made much progress, it is true, in the use which we have made of our elementary schools in the nutritional educational problem. A larger percentage of the children graduating from our schools each year are knowing at least something about the elements of food problems—What to eat, how to eat, how to prepare it." "The nutritional factor is a large and essential factor in the public health program. It has not

yet received the recognition, however, in practice, which its importance suggests. Its chief obstacle to overcome is ignorance and its function is, therefore, largely educational. The school, including the elementary school, the secondary school, the college, and the university, is or can be the most important instrument for overcoming universal ignorance."

In the Elementary School Journal, October 1921, Maud A. Brown described the health program in Kansas City Schools. The plan was devised and carried on by the Physical Education Department, yet in part, at least, the work can be classed as home economics education. "The informal discussion of the weight findings and the friendly coöperative search for the causes of underweight turned every class into a nutrition class."

In conclusion, first, it is evident that the movement for the scientific measurement of results in home economics education is established. Attempts at the construction of standardized scales and tests have been published and are being carried on at present. Secondly, home economics workers are critically scrutinizing the content of the home economics course of study. Changes in emphasis of instruction are apparent. Such topics as the economics of buying and nutrition are receiving more attention in many schools.

THE GREAT NEED FOR INFORMATION ON RACIAL DIETARY CUSTOMS

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In psychology the student learns that she must approach her subject from the known to the unknown. But when a nutrition worker comes face to face with an Armenian, a Syrian, a Polish, a Lithuanian, an Italian, or a Jewish family, she realizes, perhaps for the first time, that she does not always know what "the known" is. On the other hand the foreign born woman who has seen a race survive on "the known" does not see why she should change the customs of centuries to suit the whim of a youthful person who does not know what her perfectly good food habits are. The woman is right and the young worker is "up

against it," so to speak. There is little in the literature about the food habits of various people, very little has been given her in any of her college courses concerning the adequacy or deficiencies of food value of these various diets, and there seems to be nobody to whom she can turn for assistance.

Each person going into social work has had to learn through experience but it is unfortunate that very little of this experience has been passed on to benefit those coming after. The chief difficulty is that worth while material takes time. Such material is valuable if written up as facts by those who have worked with certain races for a long time or by one who has made a very careful study of the food value of the diet. Mae Allison left a very brave beginning of a study of food value of racial diets, a report of which was prepared by Velma Phillips and Laura Howell.[1] This piece of work has set a high standard for those who want to contribute more to the literature on the subject. While the Social Work Committee of the A. D. A. felt the need of more information on racial diets and while they would like to follow Miss Allison's lead, they realized that already busy workers would not have time for such a careful study. They did persuade several people, however, to contribute from their experiences.

Four papers on five different racial groups were presented at the October (1921) meeting of the Association: Mrs. Mary Schapiro, formerly of the United Hebrew Charities in New York City, Jewish Diets; Reba Reed of the Association for Improving the Condition of the Poor, New York City, Italian Dietary Customs; Mildred Newell, Brockton Red Cross, Lithuanian Diet; Fairfax Proudfit, Memphis, Tenn., Mountain White and Negro Dietary Habits.

The food value of diets was not worked out because of lack of time. The aim throughout was to study the common customs from the standpoint of good points or deficiencies especially with regard to the nutrition of children. The good points have been emphasized so that a new worker may have "a known" from which to work, and the undesirable points have been stated so that she may know what to advise against. The type of family studied has been the one in which economy is a big factor. It is very important to know what the family will sacrifice first when they have to economize. These papers are summarized on page 261.

Such a summary cannot give a clear picture of all the variations in any diet. The diet will, of course, vary decidedly with the financial

[1] Racial and Other Differences in Dietary Customs, *Jour. Home Econ.*, September, 1920.

condition of the family. With most nationalities, when no financial limitations exist, the diet is likely to contain too much protein and to be too rich and hearty and too highly seasoned. Those who have to economize usually sacrifice on milk, fruit, and vegetables. To them these foods are luxuries or non-essentials. The Jewish people will almost always sacrifice quantity for freshness, preferring to buy 1 pound of fish just from the water at 40 cents a pound rather than pay 40 cents for two pounds a few hours later. An Italian prefers one fourth of a pound of Italian cheese to one pound of American cheese for the same expenditure of money.

When the stranger from another country arrives, he has to make many adjustments and if he does not know our foods and cannot get the foods to which he has been accustomed, he often acquires abnormal tastes. The diet of the Italian in his own country is very well balanced. A taste for meat and sweets is acquired in this country. They have milk, cheese, fruit, and vegetables in abundance in Italy but these foods seem expensive here and milk is omitted and cheese and greens used for flavoring to a large extent.

When the dietary laws[2] of the Jewish people are not interfered with their diet is more or less international, varying with the habits and produce of the country from which they come.

As we study the habits of the various races, we are impressed with the importance of attention to the diet of the pre-school child. We find the Italian baby eating bread soaked in coffee as soon as he can chew solid food, and the negro baby, too young to sit up without being propped with a pillow, clutching a piece of cornbread in one hand and a piece of fat meat in the other, while on its face linger evidences of molasses. When we see such customs as these, there is small wonder at the large number of school children who are undernourished. We wonder that they live to be in school at all and we feel more and more convinced that the teaching of nutrition should be begun for the child before he is of school age. For the time being, social agencies cannot escape their responsibility in the question of the nutrition of the children.

[2] Previously given by Mrs. Schapiro before the A. D. A. at Cincinnati in 1919. See also *Jour. Home Econ.*, February, 1919.

	ITALIAN	JEWISH	LITHUANIAN	NEGRO
Striking characteristics (both desirable and undesirable)	Little meat Large amount cheese and beans Goat's milk in their own country—slow to use cow's milk here Generous quantity of leafy vegetables, except when extreme economy is a factor Few root vegetables or potatoes Fruit if can be afforded Oil—often a gallon a month Much bread and macaroni—often 4-8 lbs. bread, and 1 lb. macaroni daily Strong prejudice against oatmeal and American cheese or oil Much fried food Taste for sweets acquired here	Moderate amount of fresh meat and fresh water fish. Large amount of smoked, salted, spiced beef, tongue, or fish Moderate amount of milk, cheese, and eggs Large quantity of legumes, potatoes, carrots, and onions. Sorrel, beets, or beet greens in soup. Very few other green or fresh vegetables. Dried mushrooms Dried fruit, conserves, and preserves used freely. Fresh fruit between meals. White or rye bread and rolls. Coarse cereals in soup. Sour salts in soup Sour cream and sweet butter. Very little fried food. Foods generally over-seasoned, over rich, over sharp, or over concentrated	Chief foods: Smoked or salted meat or fish (often 4 lbs. a day) Sour milk, buttermilk Sour salts in soup and pickles Beets, tomatoes, onions (fried), potatoes Few green vegetables or cereals Considerable fruit Moderate amount of fat and sugar Rye bread	Chief foods: Pork Cornbread (often 3 times a day) Molasses Cabbage and turnip greens Lard or bacon drippings Potatoes—sweet and white (always fried) Buttermilk in soda biscuits Butter substitutes Little milk Melons
Probable deficiencies	Calcium and vitamines	Iron and vitamines. In cases of financial pressure also calcium	Iron and vitamines	Calcium and vitamines
One common dish	Beans, macaroni, tomato sauce, and oil	Gedemphe fleisch (pot roast made of brisket). Meat soaked according to dietary laws. Cooked with onions and seasoning in very small amount of water (in iron pot) for about 3 hours. Potatoes added one hour before time to serve	Beef and pork, chopped fine, enclosed in a ball of dough 1 inch thick and boiled in salted water or soup 15 minutes	Cush—left over cornbread(soaked in water in which greens were cooked) fried with onions in pork fat
Typical meals:				
Breakfast	White bread and coffee	White bread or rolls, sweet butter, eggs or herring, potatoes, coffee. Milk for babies	Rye bread and coffee	Only two meals a day, and these whenever spirit moves
Midday meal	Bread, fried peppers, eggs, ham, or potatoes	Smoked salmon, rye bread and butter, tea. (From the delicatessens)	Soup, meat, potatoes, sauerkraut (or other sour food), rye bread, coffee or tea	Fried pork, rice, soda biscuit, coffee
Evening meal	Macaroni, beans, tomato sauce, oil	Barley and mushroom soup, Gedemphe fleisch and potatoes, pickles or grated horse-radish, rye bread, tea. Compote of dried fruit, sometimes cake made without butter or milk	Meat, bread, tomatoes (perhaps cake, canned fruit), tea	Greens, salt meat, cornbread, sweet potatoes, buttermilk

EFFECT OF BLEACHING ON TENSILE STRENGTH OF COTTON FABRICS[1]

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No record of the origin of bleaching exists, but the process has gradually developed until we have the modern bleaching methods which are a result of many empirical experiments with lime, soda, potash, bleaching powders and acids, and oxidizing agents of various strengths.

Our present process for the application of bleaching powder dates from about 1840, and is known as the American process. It consists in boiling in large kiers with or without pressure in a series of alkaline solutions, (1) bleaching powder solutions, and weak acids.

Perborate is a bleaching agent that has come into recent use as a bleach and also as a spot remover. It has been developed in an attempt to secure a per-salt which could satisfactorily be used as a source of oxygen in bleaching. Many compounds have been prepared with this object in view, among the most successful being the per-salts formed by the alkaline earth metals, especially sodium perborate.

In many instances it will be noted that the strengths of the sours, alkali, and chemic as published are stated in terms of specific gravity but, since bleaching powders differ in the amount of available chlorine, and the same sample shows deterioration on standing, density is no criterion of strength. Since the oxidizing action of bleaching solutions is directly proportionate to the available chlorine, this, rather than the specific gravity, should be our standard for strength of bleaching solutions. Titration methods are being used in many mills today to determine this strength, arsenious acid or sodium thiosulfate being used to measure the available oxidizing agent.

Directions for the use of bleaching solutions of a definite chlorometric strength were published in 1901 by the French chemical engineer L. Tailfer (2). This author expresses the strength of bleaching solutions in terms of chlorometric degrees, which means the liters of active chlorine contained in a liter of chemic. The chlorometric degree of chloride of lime varies between 100 and 110. This means that one kilogram of chloride of lime can decolorize or bleach to the same extent as 100 to 110 liters of active chlorine under standard conditions.

Chlorine exists in two different states in bleaching powder. One part is in a state of combination which renders it as effective for bleaching purposes as gaseous chlorine dissolved in water. This is the active or available chlorine and comes from the hypochlorite of sodium or calcium. We also have chlorine which is combined with the sodium or calcium as a chloride, from which there

[1] See Recent Developments in Scouring and Bleaching of Cotton by Lillian B. Storms in the May issue of the Journal.

is no available chlorine. The formula $CaOCl_2$ is used by some authors, and others prefer that of a molecular complex of calcium chloride and calcium hypochlorite, $CaCl_2 \cdot Ca(OCl)_2$.

It is quite possible that oxidation is not produced by chlorine alone, for the oxygen of the hypochlorite may oxidize directly. By the term chlorometric degree we therefore represent an oxidizing effect which would be equivalent to that produced by a liter of active chlorine. We are speaking in terms of the effective strength of the solution, which is in no sense true when we speak in terms of specific gravity.

Perborates, although very effective as bleaching agents and spot removers, have not replaced bleaching powder because of their cost. Little is said of their preparation or methods of application in the literature.

When solutions of sodium peroxide and boric acid are combined at a low temperature the resultant compound is perborax (3) a substance of the formula $Na_2B_4O_8 \cdot 10H_2O$. Perborax is soluble in water to the extent of 42 grams per liter at 10°C. When half of its sodium is replaced by mineral acid a crystalline precipitate of sodium perborate $NaBO_3 \cdot 4H_2O$ separates. This rather stable compound dissolves with slight decomposition at 60° and evolves oxygen vigorously at 100°.

The simplest method of perborax bleaching is to boil in an open kier with about a one per cent solution of $NaBO_3 \cdot 4H_2O$. In such a process the rate of evolution of oxygen is difficult to control; and so various modifications have been made, both in the method of application and in the compound itself.

R. Starek (4) has patented a method of application which decreases the amount of perborate necessary. Heretofore bleaching with perborate has been more costly than with chloride of lime because, by heating, too great a per cent of oxygen was lost. By this method the material is alternately washed in perborate solution and steamed. The oxygen is not lost, as the bleaching solution is not boiled, and the oxygen is freed on the fiber where it exerts an intensive action.

The evolution of oxygen in the bleaching solution may be regulated by the formation of a salt of the alkaline earth metals which retards the evolution of oxygen. F. S. Schmidt (5) has patented such a compound which is prepared by mixing the sodium perborate with from two to ten per cent of a molecular proportion of magnesium, strontium, or calcium salt to retard the decomposition of the perborate on boiling.

O. Liebnecht (6) has patented a stable compound to which he gives the formula $Na_2O \cdot MgO \cdot B_2O_3 \cdot CO_2 \cdot O_2 \cdot 9H_2O$, which may be obtained by adding 64 parts of Na_2O_2 to 900 parts of H_2O, keeping the solution cool to avoid excessive loss of oxygen, then adding 80 parts of borax and 84 parts of $MgCl_2$ and treating with CO_2 till the liquid decolorizes only ten to twenty per cent of its volume of acidified normal $KMnO_4$. The white solid which settles out is a very effective bleach.

Bleaching, however accomplished, is an action of oxidation on cotton cellulose itself or on its impurities. Cotton cellulose is a colloid (7) whose constitutional formula is, at present, unknown. Hibbert (8) believes that experimental data would indicate that cellulose is an anhydride of dextrose formed by the removal of the aldol oxygen with the hydrogen from the delta and from the gamma carbon, but until we know definitely the physical and chemical nature of the fiber the action of the bleach will be uncertain.

A successfully bleached fabric must not only be white but must not be appreciably weakened. Bleaching according to most authorities exerts a weakening effect due to the formation of oxycellulose by the chlorine and oxygen, and hydrocellulose by the acid. Bradford Technical College (9) has shown that the processes of scouring, crabbing, and permanent finishing are responsible for an appreciable loss in tensile strength.

O'Neil, according to Hübner (1), claims that bleaching, if properly done, increases tensile strength. Work done by Moore, of the Manchester School of Technology (10), on cotton yarns gave the following results:

SAMPLE	STRENGTH OF BLEACH IN GRAMS OF CHLORINE PER LITER	TENSILE STRENGTH
A	15.5	10.97
B	10.2	11.77
C	7.65	12.50
D	3.83	12.50
E	2.55	14.47
F	1.53	12.82
G		13.61

He regarded (E) as an abnormal value, even though it was checked by further experiment, and attributed it to some difference in the fiber although every effort had been made to secure uniform samples. Later work at the same Institute (11) indicates that they feel this rise is characteristic of the effect of bleaching on yarns, even though it is contrary to popular opinion.

The change in tensile strength is doubtless due to the formation of oxycellulose. Moore (10) found that the relative amount of oxycellulose could be measured by the amount of methylene blue absorbed by the fiber, for oxycellulose has a greater affinity for this dye than the unoxidized fiber. He finds the amount of oxycellulose indicated by this test to be directly proportional to the amount of bleach used.

R. Starek (12) states "Most of the customary bleaches attack strength. Perborate, however, does not. It also possesses a remarkable antiseptic action which renders it particularly valuable for bleaching absorbent cotton."

In view of the fact that there exists this difference of opinion concerning the effect of bleaching itself, and of various bleaching agents on the tensile strength of cotton yarn, and because there seemingly was no data concerning

the effect of strength of bleach on woven fabrics, an investigation was made to determine the effect of various strengths of calcium hypochlorite, sodium hypochlorite, and sodium perborate on tensile strength of cotton fabrics.

EXPERIMENTAL

Two samples of unbleached muslin were used. Sample A was thirty-six inches wide with sixty-four ends per inch, sixty-six picks per inch, thirty-one and five-tenths pounds warp tensile strength, twenty-eight pounds weft tensile strength. Sample B was thirty-six inches wide, with fifty ends per inch, fifty-four picks per inch, twenty-four pounds warp tensile strength, twenty-one pounds weft tensile strength. Such grey or unbleached muslin is inspected, brushed and run on a calender rolling machine which gives the slightly ironed effect without the finishing effect. It is not starched.

Samples were cut and breaking strengths taken according to the specifications for the strip method given in Bulletin 41 of the Bureau of Standards, which directs that strips be cut one and one-fourth inches wide and raveled to one inch. Breaking strength was taken with the jaws of the tensile strength machine set three inches apart. The machine used recorded breaking strengths at half pound intervals; therefore, the readings are accurate only within the half pound.

In each run twenty-four samples were exposed to the bleach, rinsed four times with distilled water, and then conditioned at 100° for two hours and the tensile strength taken. The other twelve were exposed to sunlight for three months and then were conditioned and the tensile strength taken. When strips tore at the jaws of the machine, readings were disregarded, the tensile strength recorded in the tables being the average of those breaking normally.

The bleaching agents employed were calcium hypochlorite, sodium hypochlorite, and sodium perborate. Commercial calcium hypochlorite was used. Sodium hypochlorite was prepared by treating bleaching powder with an equivalent of sodium hydroxide and decanting the clear liquid.

Sodium perborate was made from directions given in a number of literature references and patent specifications. By the combination of one hundred parts of H_3BO_3, one hundred twenty to one hundred forty parts of cracked ice, and forty parts of Na_2O_2, a compound probably $Na_2B_4O_8 \cdot 9H_2O$ was prepared. An attempt to convert this substance into perborate, $NaBO_3 \cdot 4H_2O$, by the replacement of half of the sodium by a mineral acid proved relatively unsuccessful, the yield being low and the bleaching action poor.

By the addition of Na_2O_2 and H_3BO_3 to a dilute H_2SO_4 solution containing enough acid to replace half of the sodium, a compound, possibly $NaBO_3 \cdot 4H_2O$, was obtained which was not particularly effective as a bleaching agent. Thinking this might be due to the difficulty in controlling the evolution of oxygen an attempt was made to prepare a compound with the alkaline earth salts, since these compounds are supposed to yield oxygen more slowly.

According to the Liebnecht U. S. patent 1,200,739 sixty-four parts of Na_2O_2, nine hundred parts of water, eighty of borax and eighty-four of $MgCl_2$ were combined at a low temperature; CO_2 was then run in till the liquid decolorized fifteen per cent of its volume of acidified normal $KMnO_4$. A white crystalline sold, to which the formula $Na_2O \cdot MgO \cdot B_2O_3 \cdot CO_2 \cdot O_2 \cdot 9H_2O$ was assigned, was obtained. This substance evolved oxygen rather slowly and regularly on boiling, and bleached remarkably well. This product was used in the experimental runs.

The strength of the bleaching powder solution was determined by titration with arsenious acid according to the method of Gay Lussac.

Arsenious acid 0.11389 normal was used. Such a solution contains 22.55 grams of As_2O_3 per liter and is equivalent to a bleach of 5.1 chlorometric degrees.

Since the arsenious acid if added to the bleaching solution might free chlorine more rapidly than it could be oxidized by it, thus allowing some of the chlorine to escape unmeasured, a definite volume of arsenious acid (ten cubic centimeters) was used and the calcium or sodium hypochlorite solution was added until the indicator, indigo carmine, was decolorized. An oxidizing agent on this indicator causes it to change from blue through green to yellow. When completely oxidized it is almost colorless. This color change is a sharp one and is satisfactory for titration purposes.

Samples were exposed to the bleach for three hours at room temperature. Titrations were made at the beginning and end of this period and the strength of the bleach, in terms of chlorometric degrees, calculated from the titrations.

In the titration of the perborate solution a definite volume of the oxidizing solution was run into an excess of potassium iodide. The iodine thus freed was titrated with sodium thiosulphate.

Thiosulphate 0.1006 normality was used. Such a solution contains 67.11 grams per liter and would be equivalent to a bleach containing 2.83 liters of gaseous oxygen per liter of solution. It therefore possesses an oximetric strength of 2.83 degrees, since a solution containing the equivalent of one liter of gaseous oxygen per liter of solution has the strength of one oximetric degree.

Samples were boiled in the perborate bleach for thirty minutes and titrations were run at the beginning and end of this period.

The samples bleached with calcium and sodium hypochlorite were noticeably bleached in solutions of initial chlorometric strength of 0.2 degrees; and at initial strengths of 1.5 degrees and above they were entirely bleached.

The samples bleached with sodium hypochlorite were softer than those on which bleaching powder was used. This was probably due to the fact that the sodium compounds were soluble and would, therefore, be more thoroughly removed by rinsing.

The perborate is a very satisfactory bleach. All samples showed some bleaching and above 0.2 oximetric degrees initial strength the bleaching was complete. The fabric was a clear white and free from any harshness.

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(*Continued in the next issue*)

THE VALUE OF WHALE MEAT AS HUMAN FOOD

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For many years the flesh of whales has been used as food in Japan and the South Sea Islands, and in many parts of Japan it furnishes the only meat available to the poorer classes. In Iceland, the Faroes, and parts of Norway and Sweden, it is reported that whale meat has been used extensively for at least a generation.

Although whaling was at one time an important industry off the coasts of America, and has survived in some degree up to the present time, the use of whale meat as human food was only recently suggested, and this under the stimulus of the war emergency. The whale is pursued chiefly for the baleen or whale bone and for the oil extracted from the blubber stripped from the carcass or rendered by steam from the flesh. The residual flesh when not entirely wasted is usually ground into whale meal and used for fertilizer, less often for cattle and poultry food.

A fairly large number of whales exist, all of them cosmopolitan in habitat. They are usually divided into two groups, the whalebone and toothed whales. Of the whalebone or baleen whales, the chief varieties are the humpback, sei, blue or sulphur bottom, finback, bowhead, right, and California gray; of the toothed whales, the most important are the sperm, killer, or grampus, the dolphins and porpoises. For the most part only the flesh of the whalebone whales is considered suitable for human food. The flesh of the sperm whales is impregnated by the strong flavor and odor characteristic of the sperm oil, and is rarely eaten even by whalers.

The whales most sought after on the Pacific coast are the right and bowhead. Large quantities of the flesh of these two whales are sometimes brought into Pacific coast ports, chiefly Seattle and San Francisco, as frozen meat. However, the flesh of the humpback, sei, of thirty to fifty tons weight, with that of the finback is that most often offered in the markets for human consumption. The sulphur bottom and bowhead, which are the largest animals in existence, averaging sixty-five to eighty-five feet in length and seventy tons in total weight, furnish thirty to forty tons of a coarser meat. Although this meat has not been used in America it has been canned at Pacific coast whaling stations and shipped to other parts of the world.

Of the seven whaling stations operating on the Pacific coast only three have attempted to save the whale meat for human food. So far one cold storage plant at Bay City, Washington, two canning plants in Canada, and one cannery on the California coast have been in operation. If all of the Pacific whaling stations were fitted to produce whale meat, a total of twenty million

pounds of meat could be made available. In the winter of 1917 and 1918 a considerable quantity of the meat was used in the large cities of the Pacific coast.

Ray C. Andrews,[1] of the New York Museum of Natural History, who is well acquainted with the whale population of the world, has recently stated that one fifty-foot whale can be made to yield fifteen tons of excellent lean meat, a quantity equal to fifty-one dressed beeves of eight hundred pounds each. There are in addition fourteen tons of blubber, a ton and a half of tongue, nearly a ton of heart, and two tons of tail and fins. The viscera, bones, etc. make up a total of fifty-one tons for the fifty-foot animal. The meat has been marketed in the frozen condition at 12½ to 15 cents a pound and the canned meat at 18 cents a pound.

When the flesh is frozen within a short time after the animal is killed, and before perceptible decomposition has begun, it is found to have an acceptable texture and flavor exactly like that of prime beef. Within a brief period, however, a characteristic fishy taste and odor develops, which is usually disagreeable to the consumer. This change appears to be due to bacterial action upon the oily part of the meat, and can be lessened or destroyed only by parboiling for one minute in weak sodium bicarbonate solution (about 0.5 per cent). With proper handling, whale meat can be served in such a way as to be indistinguishable from beef.

THE COMPOSITION OF WHALE FLESH

An analysis of fresh whale meat was reported by H. A. Mattill[2] as yielding the following results:

Analysis of fresh whale meat

	per cent
Water	71.22
Ash	1.20
Protein	23.13
Fat	4.24
Undetermined	0.21
	100.00

He performed artificial digestion experiments with the whale meat and with lean beef, and found that there was little difference in the results obtained.

In the fall of 1917, a number of proximate analyses upon frozen whale meat were made in the laboratory of Household Science of the University of California with the average results shown on the next page.

[1] R. C. Andrews: *Nat. Geogr. Mag.*, 1911, 22: 411–442.

[2] Report of Coll. of Agr. and Agr. Exp. Sta. of the Univ. of Calif., p. 58 (1918–19).

The percentages of fat and water vary considerably from those found by Mattill, for, as might be expected, the fat content of whale muscle is variable even though the texture and appearance are fairly constant.

Analysis of freshly thawed whale flesh

	per cent
Water	56.9
Ash	0.38
Protein	25.3
Fat	17.4
Undetermined	0.02
	100.00

Samples of the freshly thawed whale flesh were extracted with cold water according to the method described by Emmett,[3] and total nitrogen, insoluble nitrogen, coagulable nitrogen, and meat bases were determined by the tannin-salt method. The results compared with similarly obtained results for lean beef are shown below:

	NITROGEN			
	Total	Insoluble in cold water	Coagulable nitrogen	Meat bases
Whale meat	3.43	2.50	0.35	0.58
Fresh beef	3.35	2.35	0.42	0.58

DIGESTIBILITY OF WHALE FLESH[4]

Several experiments were made to determine the digestibility of the freshly thawed meat. Two normal young women were used as subjects, and the procedure followed was similar to that usually adopted in digestibility experiments.

A basal diet of tapioca or rice, cream or butter, sugar, fruit, and coffee, was used, and to this was added a generous amount of the broiled whale meat. The basal diet was taken alone for a fore period of two to six days in each case, and was then supplemented by the whale meat for periods of three days. The urine as well as feces was collected, and food, urine, and feces weighed and analyzed for total nitrogen content.

As a check on the normal protein digestive powers of the same subjects, two experiments were carried out with similar basal diets but with lean beef round added instead of the whale meat.

In the case of the whale meat, the percentages of absorption of nitrogen were found to be 96.8 and 71.9. In the case of the beef the percentages were 99 and 98.7 for the same subjects. With subject A the digestibility of the

[3] A. D. Emmett: *J. Asso. Off. Agr. Chem.*, 1915, 1: 267–279.

[4] Tables showing comparative digestibility of nitrogen in whale meat and beef are on file in the JOURNAL Office and will be loaned on receipt of 10 cents in stamps.

whale protein was very little less than that of the beef protein. With subject B the result was unfortunately obscured by diarrheal complication which greatly increased the fecal output on the fourth and fifth days of the experiment.

The intention was to repeat the whale eating period immediately after the second beef period, but it has been found impossible to procure the frozen whale flesh. The results obtained in the first trial indicate the probability of easy and complete digestion of whale flesh.

Availability of whale nitrogen for tissue repair. Nitrogen balances were calculated for each day of the whale meat experiment. It seems that with both subjects nitrogen equilibrium was attained upon amounts of the whale nitrogen as low as 0.047 and 0.097 grams per kilogram of body weight. These figures compare well with those obtained in similar experiments upon beef and other well known protein foods.

SUMMARY

Data are presented upon the proximate analysis of whale flesh, and of water extracts of the same.

Some evidence has been obtained that the digestibility of whale protein is similar to that in beef.

It is indicated that the nitrogen of whale protein is in a high degree available for tissue repair in the human adult organism.

WEIGHTS OF ONE CUPFUL OF FOOD MATERIALS

SYBIL WOODRUFF

University of Kansas

The adoption by home economics teachers of a uniform system of weights for the cupful of common food materials is most desirable. In experimental work only weights can be relied upon for accuracy; nobody questions this but the difficulty lies in the fact that each school has a different set of weight equivalents for the common measures. The results of experimental cooking reported in various journals have sometimes been difficult of interpretation because two investigators who have thought they were discussing similar food mixtures have really been using noticeably differing proportions by weight.

The time may come when we teach proportions by weight only, rather than by measure, but, until then, the weights reported here are given as an effort to standardize the cup equivalents. The writer does not presume

to say that these findings and these only are accurate when such materials as flours are under consideration; manipulation determines what amount of material the cup will hold. But the average of many weighings in measures of standard capacity, it seems, should give as usable a figure as it is possible to obtain. After all, the need is for uniformity even more than for an exaggerated degree of accuracy.

Equivalent Measures. The volume of the standard cup, one-fourth of the legal liquid quart, is given by the Bureau of Standards as 237 cubic centimeters.[1] One cup is equivalent to 16 tablespoons, and one tablespoon equivalent to 3 teaspoons. No distinction should be made for liquid and dry ingredients, since capacity cannot vary if level measurements are insured.

DISCUSSION OF METHODS

Food Administration Reports. For purposes of comparison the average of the weights reported to the Food Administration in 1918 as those in use by the various university and college departments of home economics are given here.

Class Results. Also there are included results obtained by student work in this laboratory. These are averages of three to five weighings by each of twelve to fifteen students for each material. In this work aluminum measuring cups which only approximated the standard volume were used.

Standard Measures. These determinations have been made by one person and are an average of three to five weighings. The measuring vessel used is a standard liquid quart loaned for this work by the Department of Weights and Measures of the State of Kansas. The quart is used in preference to the cup from the same set of standard measures because the larger amount insures smaller manipulative error. The conical shape of the vessel makes leveling of the contents a very simple matter.

Calculations from Specific Gravity. If the density of a material is known an unquestioned figure can be arrived at by calculation. Wherever this information is to be had, no time need be wasted in weighing. The specific gravity given for fats is the average value reported in Leach's Food Inspection and Analysis, except in the case of butter. The specific gravity of butter fat plus the increase estimated to be due to water gives the density recorded in the table. The specific gravities for milk and skimmed milk agree in all texts; that for buttermilk and for cream of varying percentages of fat can be found in "Milk" by Heineman (1919). The specific gravities given here for molasses and corn syrup were determined with a hydrometer and also with a weighing bottle. The results agree both when the molasses is diluted with four parts of water and when it is undiluted.

Adopted Average. Wherever a reliable figure is obtained as is the case when specific gravity is known, this is adopted. If dropping a decimal or changing the number very slightly gives a round number easier to use in calculations, such a change is made. The fats seem to fall into four groups; the lightest ones are such fats as have had some air incorporated to make them white. Lard seems to be in a group by itself. Butter-like fats form the third group and it seemed impracticable to assign separate weights to the butter and oleomargarines. The oils are so similar that one weight only need be used for all.

With such variable foods as the flours a "sensible" number is sometimes chosen, e.g. exactly one fourth pound for the cup of bread flour and an even 100 grams for pastry flour. The reader will note several small changes of this character.

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[1] See Bureau of Standards Circular No. 55 and Miscellaneous Publication No. 39.

The Weight of One Cup of Food Materials

FOOD KIND AND NAME	SPECIFIC GRAVITY	AVERAGE OF DETERMINATIONS				ADOPTED WEIGHT
		Food administration	Class results	Standard measure	Calculated (sp. gr., etc.)	
		gms.	gms.	gms.	gms.	gms.
Fats:						
Crisco		209	211.7	202.6		200
Snowdrift				190.0		200
Lard compound		207		203.1		200
Lard	0.936	219	213.0		221.8	220
Butter	0.943	223	218.8	214.4	223.4	225
Oleomargarine:						
Beef fat		213		216.5		225
Cocoanut				220.8		225
Oils:						
Cottonseed	0.923	216	211.5		218.7	218
Corn	0.923	219	211.9		218.7	218
Peanut	0.919	221			217.8	218
Olive	0.917	210			217.3	218
Sugar, etc.:						
Sugar, granulated		212	193.6	185.8		200
Sugar, granulated				199.0		
Sugar, brown, light*				134.7		135
Sugar, brown, dark*		155	119.6	140.1		140
Sugar, powdered†		146	104.6	104.5		104
Molasses, cane	1.390	335	323.8		329.4	328
Syrup, corn	1.385	332	323.5		328.2	328
Egg:						
Whole egg (5 Medium)				243.1		243
Egg yolk (14 Medium)				242.5		243
Egg white (8 Medium)				244.5		243
Flours and meals:						
Cornstarch		135	131.4	124.2		125
Cornmeal, white*		139	133.8	133.8		134
Cornmeal, yellow*		139		139.4		134
Rye flour†		97	73.8	97.9		98
Wheat flour, bread†		115	113.3	120.9		113
Wheat flour, bread†				116.9		
Wheat flour, pastry†		104	97.9	103.4		100
Wheat flour, graham*		124	129.4	116.5		120
Starchy foods:						
Beans, lima large		188	168.9	170.8	180‡	180
Beans, lima small				182.8	180‡	
Beans, navy		203	170.0	190.9	180‡	180
Oats, rolled,*		81	65.8	71.0		75
Rice, white, whole		218	212.3	207.9		210
Tapioca, pearl		175	165.5	164.6		164
Tapioca, small		176	171.1	161.8		164

* Loosely packed. † Sifted. ‡ Calculated from legal weight of bushel.

Milk and cream:						
Milk, whole	1.030	244			244	244
Milk, skimmed	1.036	248			245	245
Buttermilk	1.033				245	245
Cream, 40 per cent fat	0.995	230			235	235
Cream 18 per cent fat	1.015	238			240	240

Weights of One Teaspoon of Material. The data for a teaspoon have been obtained by weighing one cupful of the material in a standard capacity, measuring cup borrowed from the Department of Weights and Measures. Tablespoons and teaspoons whether ordinary or especially designed for measuring purposes are as unreliable in volume as measuring cups. The theoretical weight thus obtained would seem to be more dependable than measurements by teaspoons. The reported weights of one cup are the average of three weighings, but of one sample only of each kind of material.

Weight of One Teaspoon of Material

MATERIAL	1 CUP	1 TEASPOON (1/48 CUP)
	grams	*grams*
Baking powder, alum (KC)	137.0	2.85
Baking powder, cream of tartar (Royal)	147.4	3.07
Baking powder, phosphate (Ryzon)	147.8	3.07
Baking powder, phosphate (Rumford)	169.3	3.52
Baking soda	179.7	3.74
Cream of tartar	149.7	3.12
Table salt, medium fine	195.1	4.06

Acknowledgment. Elizabeth C. Sprague while with the Food Administration in 1918 was personally responsible for the collecting of the data from universities and colleges which is included in these tables. Her interest in this subject which antedated the Food Adminstration summary by many years has been most keen during the preparation of this article. Full recognition is accorded to her much appreciated coöperation.

SUGGESTIONS FOR A HOME ECONOMICS RESEARCH PROBLEM IN HOUSEHOLD PHYSICS

RESEARCH COMMITTEE, AMERICAN HOME ECONOMICS ASSOCIATION

NOTE: "We have a student who would like to do research work on a problem in household equipment. Will you suggest a good practical problem at which she might hope to accomplish something definite this semester, also suitable methods of attack?"

Requests very similar to the above are not infrequent, and it is the hope of the research Committee to present suggestions which may be useful to such inquirers. The following suggestions came from one who has already made a beginning toward the solution of this problem, but who is not able to continue that investigation, and would like to see it worked out in some other laboratory.

EFFECT OF UTENSILS OF DIFFERENT MATERIALS UPON RATE OF COOKING

One might expect, from consideration of the usual figures for rate of conduction of heat through different metals, that aluminum vessels of the same thickness as iron vessels would heat their contents twice as fast and that the rate of heating in ordinary aluminum vessels, as compared with ordinary iron or enamelled iron vessels, would be proportionately still more rapid, on account of the difference in thickness of all. However, a few trials made with vessels of different materials and of the same size and shape, filled with the same amount of water taken at a given initial temperature and stirred constantly during the heating process, placed in a carefully defined position over a certain burner and heated always at the same rate as measured by B.T.U., or calories per minute, to a given temperature, in a room kept at or near a given temperature uniformly maintained without drafts, will probably convince the observer that no such difference in heating rates exists.

The rates at which heat is radiated from the outer walls to the surrounding atmosphere, in case of vessels of differing materials, must be taken into account. The problem of comparing cast iron, heavy enamel ware, and cast aluminum vessels such as are often used in making tea kettles or frying pans, must be differentiated from that of comparing the thinner walled ordinary saucepans of these different materials.

Studies of the effect of material of which the utensil is made, may be attempted both with completely filled and with partially filled vessels, likewise with covered and with uncovered vessels. Maximum differences may be expected to occur among uncovered, partially filled vessels.

Comparative effects may vary somewhat with the rate of heating, as judged by B.T.U. or calorie value of gas burned per minute; also with the method of its application, i.e., whether the edges of the flame ascend about the walls of the vessel, or whether the bottom of the vessel exceeds the diameter of the burner over which it is placed, by several inches. It is better to select 85° or 90°C. than 100°C. as the end-point, because of the difficulty of securing good checks in duplicate experiments when evaporation is excessive.

The efficiency of each vessel under any given set of conditions can be ascertained, by dividing the theoretical number of B.T.U., or calories, required for the given temperature elevation of the given amount of water, by the total number actually consumed during the process of that temperature elevation in the experiment performed. In case of a municipal gas supply, the B.T.U. value of the gas used upon any given date can usually be obtained from the city gas inspector or analyst. Corrections for temperature and barometer should be made.[1]

For bibliography see Chemical Abstract, Experiment Station Record, Industrial Arts Index, Engineering Index, Chemisches Zentralblatt, Science Abstracts of the International Catalogue of Scientific Literature.

[1] See Journal of Home Economics, April, 1919, pp. 158–162

FOR THE HOMEMAKER

MARKET PREFERENCES

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Market preferences are elusive to the person who would explain them but only too real to the producer or shipper who disregards them. They are usually built on custom and prejudice only. That no more substantial reason is back of them is evidenced by the fact that the variety, or size, or color of product that is taboo in one city is often, if not always, preferred in some other. Red onions, for instance, are the favorites in New Orleans but are almost invariably discounted elsewhere. Knowing that these preferences are largely without adequate foundation in reason, many producers are inclined to ignore them or to treat them with disdain. A good onion is a good onion, the country over, they argue. But it makes little difference if an onion be good if one out of every three purchasers passes it by. Shippers are coming to understand that they cannot afford to overlook seeming vagaries on the part of the public, for the public is the market. Hence, these preferences are in a fair way to become even more fixed.

The individual purchaser prefers a certain variety, size, or color and sees no reason why she should not gratify her preference. She even knows it is the prevailing preference among her friends; still more reason for demanding it. But the individual purchaser rarely realizes that her insistence on this choice, together with similar insistence on the part of others, no one of whom intends to be unreasonable, constitutes another complication in the already complex matter of marketing.

Cranberries afford a noteworthy example. The large markets of the country vary widely as to the type of berry in demand. New York City prefers dark-colored cranberries but middlewestern markets consider such berries overripe and insist on the lighter colored fruit. This means that the cranberries grown in New Jersey, which are light in color, cannot be marketed to advantage in the neighboring large market of New York, but must be shipped to Pittsburgh, St. Louis, and cities farther west where they are especially favored.

In New York the demand is largely for colored cheese and in Chicago this preference is marked, but "nothing but white cheese goes in this market," says the gentleman from Philadelphia. New York and Philadelphia want butter of light color and a mild flavor; fortunately Boston is gradually shifting toward the same qualifications although formerly

it demanded butter of high color and high flavor. New Orleans is another city that is manifesting a gradual change in butter preference and it, too, is tending away from the high color, although the general demand throughout the South is for butter of high color and relatively heavy salting.

Preferences in regard to eggs, while probably meaningless, are pronounced. New York prefers not only white-shelled eggs, but chalk-white, and they usually sell at a premium over all others. Boston, on the other hand, demands brown-shelled eggs and pays a premium for fancy selected browns. Other markets, other mandates. Philadelphia is so insistent on having dry-picked dressed poultry that scalded fowls are not only slow to move but usually sell below the relative prevailing prices in other cities.

Onion preferences relate to size as well as to color. Crystal wax boilers of small size usually sell at a discount ranging from fifty cents to a dollar below the price paid for onions of the first grade in all of the principal markets except New York. The large foreign population of that city wants small boilers and will pay a premium for them.

Certain large markets, Kansas City for example, are known in the trade as "red apple cities" and yellow varieties such as Winter Bananas and Newtowns find a relatively small market in the Gulf States. In eastern cities, as a rule, some of the yellow varieties are prime favorites. While color preferences in regard to apples are rather marked in domestic markets, large exporters have found that color plays practically no part in export trade.

Some preferences relate solely to wholesale demand and are not traceable directly to the individual consumer. In this class comes the Chicago potato market which is unique in its preference for bulk shipments. Under ordinary market conditions in this city, bulk cars bring a substantial premium over sacked stock, although other large markets demand that potatoes reach them in the usual containers. The explanation is that the Chicago buyer pays for the actual weight as recorded when he hauls the stock over the scales. This he does not do until he has sorted out the potatoes he wants from the car, leaving behind him, often, a goodly percentage of less desirable stock which must be taken out of the car and disposed of as culls; whereas, re-sorting is rarely allowed in the case of sacked potatoes. Both dealers and household customers contribute to the fact that certain cities have decided preferences for certain kinds of melons sold in certain ways. In some markets pink-fleshed melons are in greater demand while in other cities the opposite

is true. Paper-wrapped cantaloupes are preferred by the trade of some cities on account of their attractive appearance while in others the dealers object to the paper wrapped, realizing that it promotes decay by retarding evaporation after the melons are taken from the refrigerator car.

When a grower produces for a local market only, or for neighboring markets, it may be to his advantage to have before him a definite demand for a well-defined kind of commodity or group of commodities, but a steadily decreasing proportion of the food products of the country are grown in the region of their consumption. The large commercial supplies of produce for a large city come from widely separated areas. The large producing areas, in order to supply the large markets with anything resembling well-balanced quantities must be able to ship to any of several markets at will, or to divert carloads already in transit. Only by such methods can gluts be avoided in some cities and under supplies in others. But the shipper who diverts carloads of choice stock packed for a city with a marked preference, now suddenly oversupplied, toward a city with a marked conflicting preference, even though not fully supplied, is courting disaster. Shippers have found repeatedly that the loss incurred in trying to place goods regardless of consumers' preferences is much greater than that incurred by long distance shipment and cross hauls, even at present rates of transportation, when employed to reach a market demanding the particular variety, size, or color of product they have for sale. Experiences of this sort demonstrate clearly the truth of the disputed maxim that, after all, the consumer is king.

HOUSEHOLD BRUSHES

RUTH VAN DEMAN

Household brushes are apparently articles of equipment that have been "taken as found and no questions asked." There seems to be little or no printed material about the types of household brushes and the materials of which they are made, written from the point of view of the woman who buys and uses them. Nevertheless, brushes are put to fifteen or twenty good uses in cleaning and keeping in running order the house and its furnishings. One can hardly turn a page of any recent publication on housecleaning without finding the directions to clean this or that surface or material with soft or stiff, pointed or spiral brush as the case may be. Definite information about brushes would help the buyer to choose them more intelligently, using some other standard besides price as a basis of judgment.

THE COMMON FIBERS IN HOUSEHOLD BRUSHES

From sources as diverse as the Arabian pony, the Chinese wild boar, the mule, the Australian goat, tropical palms, Mexican weeds, and cousins of the century plant, according to the manufacturers, come the fibers that are made into brushes to scrub our sinks, sweep our smoothly finished floors, and clean our bottles.

The animal fibers, which are more expensive, go into the brushes in which durability, texture, pliability, and "spring" count. For instance the floor brush of good quality mule hair will not only give long and excellent service, but will also "wear right down to the block," as one brush manufacturer puts it. In other words, use will gradually wear down the ends of these fibers, but they will remain pliable, springy, smooth, and they can be successfully cleaned by careful washing in lukewarm soapsuds or in warm water and a little ammonia. If the housekeeper can afford the original outlay and will give them even reasonable care, brushes of animal fibers of good quality will be found more economical in the end for many purposes. The animal fibers are generally used in brushes for floors having varnished, waxed, or other smooth surface, for upholstery and heavy hangings, and for walls with fairly rough surface. For scrubbing and rough uses the vegetable fibers are best, both because they are more rigid and because they are less affected than animal fibers by alkalies and boiling water. Spiral bristle brushes of various sizes are excellent for cleaning bottles, radiators, the crevices in

wicker furniture and bed springs, and numerous other spots that are difficult to reach with a cloth and fingers.

Fibers from more than a dozen kinds of palms are used in brushes, and are given a variety of trade names, such as "Ox Fiber," "Kittool," "Palmyra," and "Arenga." Some of these, for instance "Kittool" and "Arenga," are of almost hair-like fineness, while others are so coarse and stiff as to be fit only for use in street and stable brooms. Toughness and durability are characteristics of the best palm fibers, but they are somewhat harsh and are best for scrubbing and for sweeping cement and other hard, rough surfaces. In color some of the most widely used of the palm fibers are tan and reddish brown.

Rice root, which has no connection with the cereal but is the underground portion of a large bunch grass growing on the mountain slopes of Mexico, is a stiff, cream-colored, wavy, rather brittle fiber, once widely used for scrubbing brushes but now going out in favor of the palm fibers. Disturbed labor conditions in Mexico are said to be an important reason for this, but when told that, in spite of the "battle, murder, and sudden death" in Russia and Siberia, the exports of wild boar bristles have not been seriously affected, one questions whether the falling off in the use of rice root is not due to the superior quality of other fibers produced as cheaply. Rice root, or "Raiz de Zacation" as it is called in Mexico, has been a popular fiber with European brush manufacturers, who mix it with Venetian whisk, an Italian grass root. Because they know this fiber, Italians, French, and other Europeans in this country still demand rice root brushes.

Tampico, or istle (*eet-le*), is the trade name covering three different fibers, two of which are extensively used in a great variety of household brushes. These fibers, Tula and Jaumeve (*how-u-mah-ve*), are prepared by hand in Mexico from agaves, relatives of the century plant which is conspicuous in the arid regions of the Southwest. They are tough, fine, yellowish to creamy white in color, and especially resistant to injury by water. Tampico is often colored black and reddish brown, and a mixture of these two with the natural color is said to please particularly the fancy of negro brush buyers. When colored and skillfully sized, tampico looks not unlike animal bristles, and is in many cases used for the larger part of a brush with a few rows of animal bristles or hair around the edge. Such mixtures give good service, and, like combinations of linen and cotton in textiles, are cause for complaint only when sold for what they are not. If the housekeeper is careful, however, she need not be deceived. The vegetable fibers are usually less lustrous

and smooth than those of animal origin, and burn like a splinter of wood, leaving an ash, while a burning animal bristle shrivels at the end and gives off the characteristic odor of burning hair.

TYPES OF BRUSH CONSTRUCTION

From the point of view of construction there seem to be two general types of household brushes on the market: those with the fibers fastened into a wooden block in one of several ways, and the twisted-in-wire, which may be either straight or oval. Each has its own range of usefulness.

In the old-fashioned wooden block brushes, the fibers may be stapled in, the cheapest form of construction; or cement set; or wire drawn, the most tedious and consequently the most expensive way of fastening them. By far the greatest number of household brushes are stapled, and this type of construction has another advantage besides cheapness. Each knot or tuft of fibers is fastened in separately, and one may loosen and drop out without affecting the others; whereas, in the wire-drawn brush if one knot comes out, the whole wire is likely to become slack, thus allowing many knots to drop out. The cement set can be easily told by the little rim of dried cement or pitch, as manufacturers often call it, on the block around each cluster of fibers. If the fibers are wire drawn, the block has to be split and screwed together again and the crack can always be detected. The cement-set brush will give good service if certain precautions are taken. It has this disadvantage, however, that, if kept in a warm closet as in many households, the heat dries out the cement and makes it so brittle that it fails to hold the tufts of fibers in place. At any rate, in buying a brush for long use, the housekeeper will find that it pays to notice how the fibers are held in place.

The twisted-in-wire brushes are spiral, with fibers held by strands of rust-proof wire that twist tightly about each other and at the same time clamp the fibers in place. Wood, celluloid, or sometimes the twisted wire itself forms the handle. Some of these brushes are rigid, others flexible, so that they can be poked into curving drain pipes and between the coils of a radiator.

Manufacturing and selling brushes may seem to many a rather dull business, but there are apparently some amusing "come backs" from the trade. Boston, with its proverbial intelligence, refuses to buy scrubbing brushes without handles to keep the worker's hands safely above the grimy water. In Cincinnati it is the approved thing to clean shutters

with the brushes originally designed for scrubbing wholesale milk cans. Other sections of the country, without obvious reason, demand that their brushes be pointed or rectangular, and have fibers of various colors. A study of brush habits might bring out some interesting data, and certainly durability tests of the various fibers and their adaptability to given purposes would be valuable.

MEAT PRICES AND THE HOUSEWIFE

DAY MONROE

Department of Foods and Cookery, Teachers College

A woman is usually considered an intelligent buyer of meat if she can recognize some of the commonly used cuts and knows how to cook them. But it is significant of the present movement toward a better understanding between the retailer and the consumer that the butcher is now asking the housewife to carry her knowledge further and to understand his problem in meat selling. It is not enough that a customer know what cuts she likes; she should also know what cuts there are, and should realize the quantity of beef her butcher must buy in a side of a steer in order to give her a few porterhouse steaks.

At a Food Forum on meat,[1] the need of coöperation between the housewives and the butcher was set forth by George Kramer of Ye Olde New York Branch United Master Butchers of America. A good side of beef from a western steer was brought to the demonstration, weighed, and cut up as for retail sales. Each cut was weighed, the weight posted, and with it the percentage weight of the whole given by that particular cut. Mr. Kramer told of inquiring of a group of women what kinds of beef they used in their homes. All of them were familiar with porterhouse and sirloin steaks, round for steaks and roasts, and prime rib roasts; some bought shin of beef for soup and chuck for stews. But their knowledge of beef went little beyond this. Of the rump, brisket, plate, navel, skirt, flank, and shoulder, slight mention was made.

When a butcher buys a side of beef he pays one price per pound for the whole; but when it is cut up for sale the prices must be set according to the desirability of the meat. No one would think of paying as much for shin bone meat as for a thick juicy porterhouse steak! So although the tender cuts cost the consumer much more per pound than the whole-

[1] Teachers College, under the auspices of Miss Van Arsdale of the Department of Foods and Cookery.

sale price, sometimes pieces not so desirable can be bought for even less per pound than they cost the butcher.

Unfortunately the cuts we like best are but one-third of the side of beef, by weight: porterhouse steaks, 6 per cent; sirloin steaks, 7 per cent; round steaks, 5 per cent; prime rib roast, 6 per cent; blade rib roast, 5 per cent; top sirloin, 4 per cent; total, 33 per cent.

On the other hand the things we seldom ask for, but which must be paid for by the butcher when he buys his choice cuts make up two-thirds of the total: soup meat (shin, flank, neck, plate, etc.), 21 per cent; fat and suet, 10 per cent; bones, 8 per cent; navel, 5 per cent; brisket, 5 per cent; horse shoe cut, 2 per cent; rump, 3 per cent; bottom round eye roast and middle cut, 3 per cent; cross rib roast, 4 per cent; skirt and flank steaks, 1 per cent; chuck steaks, 4 per cent; waste and shrinkage, 1 per cent; total, 67 per cent.

If you were keeping a store and had to sell two-thirds of the goods you bought at little above cost in order to persuade your customers to buy them, you would plan to make enough from selling the other third to pay your rent and running expenses and to support your family. This is what the butcher must do, and herein lies the explanation of the high cost of the "best" meat. These "best" cuts are no higher in nutritive value than many of the less expensive ones but they must be the profit makers.

The only way to reduce the price of steaks and prime rib roasts is to use the other cuts more frequently so that there will be a steady market for the whole side of beef. It is easy to cook sirloin steak, but it is cheaper to buy chuck steak occasionally even if it must be more carefully prepared. If we think we have little time for stews and pot roasts and braised meats, we should buy pressure cookers or fireless cookers, or we should not complain about the high costs of the other cuts.

The steer cannot be changed. Nature made him as he is with much meat for stews and little for the steaks and best roasts. It is the housewife's responsibility to realize this and to try to help the butcher use his beef "left-overs" just as she would plan to use less desirable chicken "left-overs" in her own home. The butcher can not help her by lowering meat prices unless she helps him to find a market for all of the meat which he must buy. There must be coöperation.

EDITORIAL

A Larger Journal. Beginning with July each regular issue of the JOURNAL will be increased to 52 pages, exclusive of advertising, as long as this space can be adequately and profitably filled. This change is based upon the belief that home economics women are interested in their professional publication and will supply it with good, representative material. The JOURNAL also anticipates an increasing number of fresh, new contributions from the affiliated states, in the form of news, projects they may undertake, and other items of interest. The JOURNAL is striving to be the real voice of the Association, the "tie that binds" the states and regions together into a strong American Home Economics Association.

Even this small increase in the number of pages is not without its drawbacks, however. Drawbacks seem to have a way of being connected with finances. So it is in this case. The printing of these pages alone, necessitates securing at least 50 new subscriptions a month. But we have taken the step, and we count on a larger JOURNAL to bring new interest and new subscriptions, and on new interest and new subscriptions to make a larger, better JOURNAL.

Purpose and Advantages of State Affiliation. The purpose of regional organization and affiliation of individual states with the American Home Economics Accociation is twofold:

1. To provide a more unified Association.
2. To provide a more representative Association. It is believed that these two purposes can be fulfilled through the affiliation of individual states and the grouping of these states into regions having common problems.[1]

Some results anticipated from affiliation are as follows:

Through affiliation of a state, each member of the State Association becomes a member of the National Association with full voting privileges. This membership is secured at $1.00 instead of $2.00, the cost of membership outside the state association.

The affiliated state is privileged to elect a councilor to represent it on the National Council. The proceedings of the Annual meeting will be printed in the Journal for all members of the Association.

Because of the lowered national dues and the privilege of the proceedings, it will be possible to secure a wider state membership from the

[1] For basis of affiliation, see report of Annual Meeting, A. H. E. A., *J. Home Econ., Sept.*, 1921

teachers in the small community, thus increasing the state revenue and hence the work which the state may promote to the benefit of all.

Because of larger and more representative state associations, there will be an increased revenue to the A. H. E. A. which can be used in making home economics material available. The support of the executive secretary seems possible through this plan.

Because of the unity with the National Association, it will be possible to keep states in touch with problems of national interest, through correspondence, through persons who may be going from state to state, and, monthly, through the JOURNAL.

A larger and better JOURNAL is a probable outcome, because of the better organization through which to secure and maintain JOURNAL subscriptions and content. As a corollary to this, the larger subscription list will mean more advertising and a better financial status.

Finally, the results which may be anticipated in the general support of the professional association for home economics women will make it possible for the Association to continue its present work and to enlarge its scope of influence, a condition impossible save as every person interested lends her influence. This influence is best expressed in active membership in the A. H. E. A.

MILDRED WEIGLEY,
Chairman, Regional Organization.

The Rôle of Instinct in the Choice of Food.—"Can instinct guide the animal advantageously when there is a limited variety of food available?" Concerning this there has been much speculation and a little scientific investigation. Some investigations several years ago gave Evvard[2] reason to believe that swine were able to select the kind and amount of food they needed. Osborne and Mendel[3] found that rats were capable of choosing with surprising effectiveness between two proffered food mixtures similar in texture and attractiveness but differing notably in nutritive value. One mixture was described briefly as nutritively inferior in contrast with the other which was more adequate for nutrition in growth; the animals instinctively ate more freely of the one which experimental evidence had demonstrated to be preferable. More recent experiments by Mitchell and Mendel[4] have demonstrated

[2] Evvard, J. M., Proc. Iowa Acad. Sci., 22, 375 (1915)

[3] Osborne, T. B. and Mendel, L. B., Choice between adequate and inadequate diets, made by rats. Jour. Biol. Chem. 35, 19 (1918)

[4] Mitchell, H. S. and Mendel, L. B., Choice between adequate and inadequate diets, as made by rats and mice. Amer. Jour. Physiol. 58, 211 (Dec. 1921)

that rats and mice are capable of choosing from foods of a limited variety so as to meet satisfactorily the demands of growth. Groups of animals were allowed to choose freely and eat unrestrictedly from prepared mixtures described by the authors as (a) high and low protein, (b) complete and incomplete protein, (c) high and low in certain vitamins, salts, et cetera; when allowed such a free choice they thrive as well as those animals fed on a purposely superior diet. In one part of the experiment where meat and corn preparations and a salt mixture were offered ad libitum, the rats chose in all cases not a high protein diet but a moderate one which, judged by the usual standards, was sufficient for all purposes. These results were in accord with a previous statement by Osborne and Mendel: "Desire of the young animal for food is something more than mere satisfaction of calorific needs. The demand made by growth impulse must be met by food of proper chemical constitution."

It would be interesting to know how far the man of modern civilization with his perverted tastes could be trusted to select by instinct a diet fully adequate for his needs. There is abundant evidence that he does not always choose his own food nor that for his young in the wisest manner. Instinct today has relatively little to do with his selection which is limited by a restricted supply and economic repressions. The more civilized man becomes, the less choice is he able to exercise in this regard, and the more fixed do his dietetic habits become. It is impossible to believe that man could have reached his present state of development without a diet adequate for all purposes. Whether the diet of today will prove equal to the demands of the future, many scientists are doubting. It is impossible to revert now to instinct; the alternative is education in right habits.

SYBIL WOODRUFF.

THE OPEN FORUM

To the Editor of the Journal:

The following family history has been sent me in response to a plea for such material which appeared in my book, "Successful Family Life on the Moderate Income." It seems to me to show such an admirable spirit and so much intelligence that I wish to share it with the readers of the Journal.

If we as an Association could have a thousand actual or even carefully estimated budgets of family incomes under $3000 we would possess material for a very helpful study of the conditions in which a valuable portion of the community live.

MARY HINMAN ABEL.

Family History, 1921

Family made up of man aged twenty-nine years, woman aged thirty, and one child—boy two years.

Place of residence. College town in east.

Occupation of man. Foreman of new and repair work on gas service. Hours: 9 hours daily and writing to do evenings, also on duty for trouble calls at all hours of day and night, Sundays and holidays.

Parentage, Education, and Character

Man. His mother died when he was two years old, his father was shiftless, therefore selfish and brought the boy up to buy before earning the wherewithal to pay. No schooling after nine years of age and after that his father took his wages till he was twenty-one years old, keeping him shabbily dressed. Man saw the folly of such living, was naturally neat, became industrious upon leaving his father and surroundings, wanted to save but found it hard to start. He is quiet, very fond of music—good music, and appreciates refinements of life.

Woman had to leave school in second year of high school because of long and severe illness which left her partly crippled and not strong. Went to work in an office when nineteen years old, never had heard of budgets but kept the following:

Board, Room and Washing	$5.00
Savings	2.00
Clothing	1.50
Church	.50
Vacation, Xmas, etc	.50
Doctor	.50
	$10.00 per week

Child is well, obedient and good, therefore always happy, considers it a privilege to wait on others.

Start in Life. This couple were married when twenty-two and twenty-three years old, respectively. Woman's savings of $500 used to make cash payment on home very centrally located. Man's savings paid for the furnishings of four rooms including an unusually well stocked pantry.

Financial Report for 1921. Yearly Income $1456.00 ($28.00 a week).

Rent—includes: interest, taxes, water rate, insurance on house and furniture, and $50.00 for year's repairs, etc	$5.00
Insurance—20 pay't life, is more than we could afford but wife needed protection because of delicate health	4.00
Savings	3.00
Savings toward Home	1.00
Operating—heat, light, gas and telephone	3.00
Clothing—Man is very hard on clothes	3.00
Food	5.00
Health—Wife had a hundred dollar operation and is under doctor's care all the time	3.00
Church and Charity	.50
Vacation, Xmas, etc	.50
	$28.00

Budget for 1922. Income to be about $1560.00

Savings:		
For the bank	$2.00	
5 shares of coöperative bank stock	1.25	$10.00
Insurance	5.75	
Payment on home	1.00	
Rent		$5.00
Clothes		$3.00
Operating		$3.00
Food		$6.00
Health		$1.50
Church, etc.		$ .50
Vacation, etc.		$1.00
		$30.00

Family Life. Home loving people, get out very little except to church. In summer of 1922 hope to visit town where woman lived as a girl.

Prospects for the Future. Hope to have enough paid in on our home so that paid up shares of coöperative bank stock ($1000) can make the final payment.

When child is seven or eight years old we wish to purchase five more shares of coöperative bank stock to be used for his college education with the help of his own earnings and savings.

Hope to install plumbing and heating in our home by the next ten years. Hope to have a piano. Want to invest our savings to start an old age fund.

Home Economics in the Citrus Fruit Region.—Under the title "An Appeal to Human Dignity" Dr. F. W. Blackmar, Dean of the Graduate School of the University of Kansas describes in a recent issue of the "Survey" an experiment in home building made by the California Citrus Fruit Growers' Exchange. He says in part:

The local fruit associations, each with a central packing house, remedied the evil of a continual shift of labor by making permanent homes for Mexican families. In the center of the fruit packing area they built villages of ten, thirty-six or sixty one-family houses, as required. These are constructed of either wood or concrete, and consist usually of four rooms and bath, with modern conveniences, but they are simple in arrangement to suit the ideas of the Mexicans who live in them. Around each one is a plot of ground large enough for raising all the vegetables used by the family. Lodging houses for unmarried men have also been erected. These homes are furnished to the laborers at nominal rents just sufficient to cover interest on the investment. Not only the streets and yards, but the interiors of the buildings are under the closest sanitary inspection. This method of housing has a tendency to insure permanent residence and employment, for the homes are so superior to the dirty, squalid shacks occupied under ordinary circumstances by Mexican laborers that the families are willing to stay on, not only through the season, but from year to year.

* * * * *

The Mexican laborer is rather a faithful type, willing to be directed by those who understand his psychology. While one would scarcely look for leaders in American civilization from this population that drifts over the border mainly for the purpose of working for food, a little clothing and many cigarettes, it is a great achievement to have fitted it intelligently into an American system of labor.

If so much can be accomplished with this group of people—of all classes the least interested in community life and affairs of government—does it not emphasize the statement, frequently made, that the great immigration labor problem has arisen because the United States has failed to care properly for the foreigner? Knowing that much labor agitation arises because of the discontentment of foreigners, is it not reasonable to conjecture that, with more interest and care on the part of the employers, irregularity might have been prevented?

THE QUESTION BOX

Question: What is your opinion as to the method of ventilating large kitchens by means of a ventilating fan?

Answer: 1. This method of ventilation is one that is common in restaurants. It is successful.

2. Its cost of operation would be between 1 and 2 cents per hour.

3. The apparatus would probably cost between $25.00 and $50.00 exclusive of installation.

4. Its efficiency would be affected by a strong wind opposing.

5. Doors leading to other rooms would probably have to be closed when it was in operation to insure against odors getting into other rooms.

6. In very cold weather it would likely reduce the temperature considerably.

7. To summarize: In all but extreme conditions of wind and temperature it could be depended upon to do what is claimed for it.

BOOKS AND LITERATURE

Getting Your Money's Worth. By ISABEL ELY LORD. New York: Harcourt, Brace and Company, 1922, pp. 210. $2.00

"Getting Your Money's Worth," is a book which the housekeeper wants and needs and it will do much both to take the mystery out of budget making and to clarify people's thoughts in regard to their questions of personal finance.

In the preface Miss Lord states, "Getting your money's worth means knowledge of how to choose and how to buy, as well as how to apportion the income, but here, for the sake of brevity, only the latter aspect is discussed." This statement is perhaps the key to the contents of the book but fortunately one also finds some most valuable help on the how to choose and how to buy aspects because of their relationship to apportionment.

One distinct departure which Miss Lord makes is in the classification of the expenditures. Instead of the usual division of Food, Clothing, Shelter, Operating Expenses, Higher Life, Personal Expenses, and Miscellaneous, she suggests a list of thirty-five items, arranged alphabetically, from which one can choose the item applicable to her particular family. The use of such a list admits of no misunderstanding. The discussion of the various items is full of practical help.

The chapters on "Why and What Accounts" and on "How to Keep Accounts" will do much to produce a right attitude of mind toward accounts. These chapters give enough detail of the mechanics of account keeping, especially of the use of the card system, so that the novice will not give up in despair when confronted by the innumerable questions which arise in keeping classified accounts for the first time.

The common feeling that a budget, once made, is inflexible and should be adhered to strictly is overcome in the chapter, "On Readjusting." The reader loses some of her antagonism to the budget because she realizes that the right kind of budget can be altered when necessary, is constructive, and is an aid to better balanced living. The discussion of income other than money should make the housekeeper put a truer valuation on her work. The housewife is apt to forget that her routine household duties and her thrift are productive. The discussion of income other than money throws a much needed light on the value of these tasks.

One cannot read "Getting Your Money's Worth," without recognizing that a budget may be a personal matter but that its social aspect is of greater importance than its individual aspect. Because of the constructive and practical tone which runs throughout the book, many people will be brought to a realization of the satisfaction which budgeting, account keeping, and right uses of resources may produce. Miss Lord has added to home economics literature a book which will be useful in the class room but which will be especially valuable to both men and women in adjusting their personal financial problems.

SARAH J. MACLEOD.

What is Social Work? An Introductory Description. By MARY E. RICHMOND. New York: Russell Sage Foundation, 1922, pp. 268. $1.00.

Workers and students in the field of social work have looked forward with eagerness to Miss Richmond's new book, "What is Social Case Work?" because of her unique position in her profession. As Director of the Charity Organization Department of the Russell Sage Foundation and author of "Social Diagnosis" and "The Good Neighbor," she has been for years a recognized authority on social case work.

The volume recently issued, which calls itself "An Introductory Description," begins with the narration of six histories, chosen by the author as typifying case work. These include a difficult, maladjusted girl who is not a defective; a small boy in need of a home; a husband and wife who cannot agree; a fatherless family with children who are not receiving proper care; a widow with children, who is not an efficient home maker; and an older woman with difficulties which her relatives fail to understand. These bring out various problems and emphases in social case work. One case, for example, stresses the value of imagina-

tive sympathy instead of routine court punishment for a young petty offender, showing the constructive work possible with a difficult girl who otherwise might have become a hardened offender. Another brings out the need for continuing a case long after the old-time agency would have closed it. A third shows the value of studying the client's background. It illustrates the long and, at times, discouraging efforts required to develop in a mother honesty, cleanliness, and self-respect, through learning her background and appealing to her pride and love of her children. Again, the problem of the reëducation of a family is taken up, with a discussion of the value of the home in the building up of family morale. There is a discussion of the possibility of securing the coöperation of relatives, not merely from the standpoint of financial aid, but primarily for help in the rehabilitation of the family.

The book shows the author's acquaintance with many cases and makes the reader desirous of more. One wishes that there had been room for the inclusion of cases illustrating such situations as that of an aged couple; a chronic deserter; chronic underemployment or long-continued unemployment; industrial accident; a father with motherless children; and an unmarried mother.

Social case work is defined by Miss Richmond as consisting in those processes which develop personality through adjustments consciously effected, individual by individual, between men and their social environment. This requires in the skilled case worker the combination of four qualities: insight into individuality and personal characteristics; insight into resources, dangers, and influence of social environment; direct action of mind upon mind; and direct action through the social environment. The emphasis is not at all upon relief but upon the development of personality. Relief is considered as but one of the items of secondary consideration in the larger program.

The author devotes one chapter to a discussion of the relation of the social case worker to the home, as the seat of certain potential sources of strength and probable sources of weakness. She suggests the dangers inherent in the substitution of specialists for the home, because, "speaking broadly, children do not prosper without fathers and mothers who love them and love one another." She emphasizes the need for an intelligent understanding of the laws defining the relationship of husband and wife, in order that good case work may be done in this field.

In other chapters the author outlines the relation of the case worker to the school, the workshop, the hospital, and the court, stating that no one of the organized forms of social life can be studied save against the background of all the others. Group work, social reform, and social research, which interplay with social work, are discussed. The relationship of social work to social research and to social reform is set forth. The service which social work can render in the field of public administration also has place in the book.

The work is rich in illustrative material. It shows catholic reading in many fields, including sociology, philosphy, and psychology. Many good side lights are given on social work, which it is difficult to refrain from quoting. Pertinent suggestions, thrown out almost as an aside in many cases, form some of the most valuable material in the book.

MOLLIE RAY CARROLL,
Social Science Department, Goucher College.

Personal Hygiene. By MAURICE LE BOSQUET. Chicago: American School of Home Economics, 1921, pp. 224. $1.00.

The aim of this text-book is the "preservation and improvement of health." Again and again the author stresses the idea that "the time, strength, and money used for the improvement of health are not taken from greater or more necessary things, but that health is a fundamental necessity." Of course we all know this in a general way, but do not many of the appurtenances of our civilization compel unhygienic living unless special attention is focused on "health

first?" This is what Mr. Le Bosquet is attempting—to make us really believe that health comes first.

The text is divided into three parts. Part 1 deals with the Human Machine and contains brief descriptions of the structure of the muscles, the skin, and the sense organs. Part 2, the Running of the Machine, takes up the work of the body as an energy transformer. There are paragraphs giving the essential principles of digestion, nutrition, circulation, temperature regulation, and waste elimination. These make the foundation for Part 3 which discusses the Care of the Machine. Excellent advice is given on such topics as the care of the hair, teeth, skin, complexion, the hygiene of clothing and shoes, and the hygiene of fatigue, rest, and muscular activity.

A whole chapter is devoted to the hygiene of physical exercise. It is estimated that in the last twenty-five years the amount of muscular work done by people in the United States has decreased about seventy-five per cent. Hence there is no principle in hygiene better established than that considerable muscular activity is necessary to counteract the evil effects of sedentary life. This means for most of us, definitely planned exercise. For the best hygienic results, this exercise must involve a maximum amount of muscular work and a minimum of nervous energy, must be taken daily, must be vigorous, rythmic rather than sustained, enjoyable and taken in the open air. Therefore out-of-door fads are fine hygienic measures. The study of birds, geology, amateur photography, and the like; games—golf, tennis, rowing, bicycling, riding, swimming, walking, are good fun and good hygiene. A set of formal exercises with instructions and illustrations is included. The book closes with a chapter on the ethics of health by Dr. Thomas D. Wood and one on the use and abuse of drugs by Dr. H. M. Lufkin. There are questions at the end of the chapters and a short bibliography.

From the viewpoint of interest the book lacks a sufficient number of good illustrations. There are a few confused statements, doubtless due to brevity of expression. The use of one name for a given substance rather than two or more, for instance, enzyme, nutrient, protein, would improve the text.

CAROLINE E. STACKPOLE,
Teachers College.

A History of Industry. By ELLEN L. OSGOOD. New York: Ginn and Company, 1921, pp. 430. $1.72.

That economic laws viewed first historically and then in their present-day application will insure the sound judgment in public affairs which is expected of American citizens is the view of Ellen L. Osgood in this secondary school text, *A History of Industry.*

The author evidently relies largely upon definite knowledge and interpretation of the history of early industrial periods to secure an understanding of the workings of economic laws, since more than half of the text deals with the history of industry previous to the industrial revolution and less than one-sixth of it is devoted to the periods immediately following the industrial revolution and the industrial period of the latter part of the nineteenth and early twentieth centuries. This view is further emphasized by the topics for discussion at the close of each chapter. These topics deal mainly with the subject-matter of the chapters and give relatively little attention to the contrasts and comparisons which would tend to develop an understanding of the workings of economic laws under present-day conditions.

The practical difficulties of using a text which tends to emphasize one phase of the subject, while very real to the teacher who is confronted by the time limit of the school program, do not overtop the usefulness of this text. Periods of industrial development are clearly defined. Characteristics are given in a brief and interesting form. Economic laws and their relation to the industrial development of England and continental Europe, as well as colonial and modern America are traced through the periods.

The book has much to recommend it for high school purposes as a text to be followed and as a source book for the instructor who teaches by the problem or project method. It will also meet a need in the vocational schools, technical schools, and the continuation schools though in these fields of education teachers will wish that this much-needed text might have traced more definitely and interpreted more fully the perplexing and far-reaching problems of division of labor and specialization.

CLEO MURTLAND,
Cass Technical High School, Detroit.

A Dietary Study of Some Kansas Institutions under the Control of the State Board of Administration, by Dr. E. H. S. Bailey, Professor of Chemistry, University of Kansas, and Chemist, State Board of Health, has been published recently. The contents consist of dietaries of the penitentiary, the industrial reformatories, the hospitals for insane and epileptic, and the schools for the blind, the deaf, and the feeble minded, and a comparison of the dietaries of these nine institutions. The bulletin contains seventy pages.

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NEWS FROM THE FIELD

FIFTEENTH ANNUAL MEETING, CORVALLIS, AUGUST 1–5

The first session of the Convention will be held at 2 o'clock Tuesday, August 1. The address of welcome by the president will be followed by a Council meeting open to all members of the Association. Section meetings will be held each morning as follows:

Wednesday: Clothing and Textiles, House Administration, Home Economics Education, Business and Professional Women.

Thursday: Food and Nutrition, Home Economics Education, Institutional Economics, Extension.

Friday: Institutional Economics, Clothing and Textiles, Science, Homemakers.

Saturday: Food and Nutrition, Extension, House Administration.

The afternoons will be given over to conferences, committee meetings, automobile trips, golf, swimming, horseback riding, tennis, and informal teas. General sessions have been planned for every evening, with speakers of national reputation.

The following organizations will send representatives: Children's Bureau, Women's Bureau, National League of Women Voters, American Red Cross, General Federation of Women's Clubs, Public Health Service, National Research Council, National Consumer's League, Child Health Organization.

The preliminary program for the Convention will appear in the July issue of the JOURNAL.

THE HOME ECONOMICS SPECIAL

A very attractive itinerary has been printed giving in detail the arrangements made by the Transportation Committee with the Burlington (C. B. & Q.) and Great Northern Railways, for the operation of a Home Economics de luxe special train to Portland, Ore., leaving Chicago via the Burlington Railroad at 10:10 a.m. July 26, arriving St. Paul 10:10 p.m. same day.

Leaving St. Paul at 10:45 p.m., our Special train arrives Glacier National Park at 8:00 a.m. July 28th. Two days and one night will be spent within its borders, motoring and launching. The schedule from Glacier Park will be as follows:

Leave Glacier Park, 8:00 p.m., July 29th, arrive Seattle, 8:00 p.m. July 30th; Leave Seattle, 11:59 p.m., July 30th, arrive Portland, 7:20 a.m. July 31st.

The Transportation Committee has arranged the schedule so as to arrive at Portland the morning of July 31. This will enable the members of our party to enjoy a thorough rest, visit the many points of interest, and acquaint themselves with the metropolis of the Puget Sound country—Portland—before the opening of the meeting on Tuesday at Corvallis.

The entire trip is being operated at actual expense, as itemized below:

Summer tourist round trip fare, Chicago to Portland	$86.00
Lower berth, one way	24.75
Approximate expense of meals in dining car enroute to Seattle	12.00
Complete two-day tour in Glacier Park	26.25
Total	$149.00

For reservation on this special train, or further information, kindly communicate with Nina Streeter, Chairman Travel Committee, 1370 E. 54th Street, Chicago.

The *final date for making reservations is June 20th.* This cannot be extended. The Transportation Committee must advise the railroad companies as to the number of cars required for our party. Take care of your reservations—now—please.

Reservations for accommodations during the convention should be made with the Director of Dormitories, Oregon Agricultural College, Corvallis, Oregon, at as early a date as possible.

THE FOREIGN FIELD

China. The following are extracts from a letter to the JOURNAL from Emma H. Gunther, written from Canton Christian College. Miss Gunther and Miss Balderston are lecturing and studying the educational work in China:

"True Light Middle School is a well organized high school for girls with adequate buildings, a delightful campus, and an especially strong staff. They have begun their work in household economics with emphasis just now on nutrition and Chinese foods, a course in housewifery, and also one in household budgets. They have good opportunity for the development of this work with a chance for a separate building next year; with a teacher who has had household arts training for four years at Teachers College; and best of all with the interest in home economics already established. It has been a great delight to plan their courses with them and to anticipate the work of the next five or ten years.

"In coöperation with the Y. W. C. A., we have met a group of about twenty college women whose lines of work link up directly or indirectly with the home. We had a group conference and discussed the possibility of a composite course for groups of wealthy Chinese women who have asked for such classes. The plan suggested was that each of these women should contribute a lecture or two and then later aim toward work that is not specialized. For instance, one from Hackett Medical College will give the special baby care and baby food; another who is here at the college and coöperates with the U. S. Department of Agriculture will demonstrate Chinese foods; another who has had excellent experience in building Chinese homes will talk on the finishing of wood work and floors necessary in this climate and on certain household equipment, especially Chinese stoves; another has had training and experience in care of the sick and special diet.

"We are now at the Canton Christian College, a most interesting school with an enrollment of 500 girls. I have just finished a conference with Mr. Graybill, member of the recent Educational Commission studying schools. Miss Balderston in turn is keeping busy, now having conferences with a man who is especially interested in soap industry in the chemistry department, and now conducting a series of three demonstrations with the wives of the faculty and some Chinese women.

"I thought you might like to know that one of the first magazines which I picked up in the library here was the JOURNAL OF HOME ECONOMICS."

India. The following is part of a letter from M. U. Almaula, principal of the Womans College at Ahmedabad, India, and formerly associated with Mrs. Strong.

"You will be glad to know that I have been able to popularize home economics to some extent and many have begun to take interest in the work. I have to present the subject in the vernacular, viz. Gujerati.

"It will not be out of place to inform you that we are conservative by nature and it takes time to make innovations. Our kitchen is simple, utensils few, and furniture conspicuous by its absence. The whole of cooking is done in the sitting posture; spreading the table is not literally correct with us. The food is served out in tinned brass vessels—dishes and bowls,—and partaken sitting on wooden planks with legs crossed and without the aid of forks, knives, or spoons. Some place their dishes on a low stool about a foot high. Tinned articles of food are seldom, if ever, used.

"The Hindu is a staunch vegetarian and it is no wonder if many have not handled, nay touched, an egg. His food is mainly starch consisting of wheat or such other cereal, bread, boiled rice, some pulse, and vegetables. The thin and round bread, without any leavening agent, is prepared by the quick oven process and the food is prepared and consumed daily. We have our menus, ordinary and occasional, the latter varying with the seasons.

"From the JOURNAL I learned of Mrs. Norton's interesting experiences in Constantinople."

ALABAMA

The Alabama State Home Economics Association met in Birmingham, April 13 and 14, 1922 with the following program: General meeting—Prevention of Blindness, Dr. Carris; Opportunities for Home Economics Workers, Dr. Benjamin Andrews of Columbia University. Group meetings—Homemakers, Institutional, Home Demonstration, Home Economics Teachers. Subjects of special interest to each group were presented by Alabama home economics workers.

At the business meeting it was decided to affiliate with the American Home Economics Association. The following officers were elected for the coming year: President, Mrs. Mamie Thorington, Montgomery; Vice-President, Helen Green, Auburn; Secretary and Treasurer, Jamie Henry, Ramer.

ARIZONA

The University of Arizona. The class in food economics in the University recently conducted a food forum to which housewives were invited. Practical food problems were discussed; short reports of investigations, illustrated by exhibits and charts, were presented by members of the class. Time was allowed for questions and expression of opinions after each talk. The topics of the forum were: Judging Quality and Value of Eggs Bought in Tucson. Shall we Buy Package or Bulk Food? How Many Brands and Grades of Canned Goods is your Grocer Required to Carry? Some Unusual Cuts of Meat and Their Uses; What Kind of Milk Do you Buy? Why? The Importance of Knowing Varieties, Kinds, and Quality of Apples for Household Purposes. How is the Bread You Buy Made? Some Ten-Cent Lunches and Some Fifteen-Cent Dinners.

To show the value of simple animal feeding experiments for the use of home demonstration agents, for popular public addresses on food, and for health-class teaching, certain feeding experiments were conducted in the Home Economics Department.

Six lots of white rats, three rats in each lot, each lot the same weight and age, four weeks old, were fed the following diets: I, white bread and cow's fresh milk; II, white bread and goat's fresh milk; III, white bread and coffee (very little condensed milk added); IV, white bread and lean beef (cooked); V, white bread and distilled water; VI, a control diet consisting of two-thirds whole wheat flour and one-third powdered milk and 2 per cent of the flour in NaCl.

Weekly records were kept over a period of thirteen weeks. Photographs were taken of individual rats. The striking differences in the size and appearance of each lot made a great impression on the health class of children conducted by the senior class in dietetics. In addresses before the Woman's Clubs and other groups of people this illustration of the influence of diet on growth proved most effective.

CALIFORNIA

An excellent state report of the **California Home Economics Association** has been prepared by Essie L. Elliott, first president of the Association under the new regional plan. It includes the regional plan and national budget, financial report, state reports by sections, recommendations, proposed amendments to the state constitution, a list of officers, and a notice of the summer meeting of the A. H. E. A. at Corvallis. This report is on file in the A. H. E. A. Office, and will be loaned to any of the newly affiliated states desiring suggestions in the preparation of a similar report. California has affiliated, with a membership of 210, and has pledged $680 to the Executive Secretary Fund. The Association has three sections, each one having a representative on the state council which met in Berkeley, April 13 and 14.

Part of the work for the present year has been the making of a scale for measuring achievement in home economics instruction, under the chairmanship of Agnes Fay Morgan of the University of California. After further evaluation of these tests it is planned to publish them. The officers

for 1922–23 are Bertha Prentiss, supervisor of home economics in Berkeley schools, president; Florence M. LaGanke, supervisor in Oakland schools, secretary-treasurer.

The Central Section of the association met April 5 and sent resolutions to the State Superintendent of Public Instruction and the State Commissioner of Secondary Education, embodying their stand for a minimum of one unit of food and one unit of clothing for graduation from a high school maintaining a department of home economics. They further urged, for the encouragement of the profession of teaching, that advanced study and professional training be compensated proportionately to the training.

FLORIDA

Florida State College For Women. The State Board of Health and the Home Demonstration Division are launching a coöperative piece of child welfare work. A nurse, sent out by the State Board of Health, superintends the weighing and measuring and holds a preliminary examination. Children who are sufficiently underweight to need special attention are examined before the mother, by a doctor from the State Board of Health and the nutrition specialist from the Home Demonstration division. The nutrition specialist advises on the diet, rest, work, and play, and gives the mothers a series of lessons on nutrition.

IDAHO

The Series of Movable Schools held in nearly every section of Idaho during the past two months have been characterized by large attendances and marked interest on the part of farmers and their wives. In one small town, in spite of inclement weather and bad roads, there was an aggregate attendance of 4600 at the three day session. It was the purpose of the University administration to create in the State a greater confidence in the future of Idaho agriculture and to assist the farmers in formulating their plans in the direction of a permanent and successful farm operation. In addition to representatives of the teaching force, experiment station staff, and extension service, prominent bankers and businessmen of the State, representatives of the Union Pacific Railroad Company, A. H. Upham, President of the University, and E. J. Iddings, Dean of the College of Agriculture, took part in the program.

The special programs for the women were made up of subject matter talks on Better Homes for Idaho, Women as an Economic Factor in the Home, Home Conveniences, Short Cuts in the Kitchen, The Family Dietary, Child Feeding, and Garment Construction. The speakers for the women's section were Katherine Jensen, Head of the Home Economics Department, Amy Kelly, State Leader of Home Demonstration Agents, and Wilhelmina Jacobson, Extension Clothing Specialist.

ILLINOIS

When the **Home Bureau** was organized in McLean County, in 1918, a survey was made to find out the number of children in the county who were drinking coffee and tea and the number drinking milk. The cards were sent to the grade teachers of all the schools both rural and town with the exception of the two cities, Bloomington and Normal. The reports from 3139 showed 43 per cent drinking coffee or tea every day, 19 per cent no tea or coffee; from 4069, 34 per cent drinking milk every day, 21 per cent no milk.

After three years of work in the county against the use of coffee and tea for children and advising the use of milk, a second survey was taken. In the towns 1728 reported 10 per cent drinking coffee or tea every day, 52 per cent no coffee or tea; 50 per cent drinking milk every day, 10 per cent no milk. In the country 3428 reported 14 per cent for coffee or tea every day, 44 per cent no coffee or tea; 3424 reported 61 per cent for milk every day, 11 per cent no milk.

During this time the "Hot Lunch in the Schools" project has been worked. When the work was begun six schools out of the 251 had served hot lunches; at the end of the first year 42 schools served, second year 103, third year 105, fourth year 107.

IOWA

Iowa State College. Miss Walls, Acting Dean of Home Economics, has established a series of Get Together Dinners for the division faculty and the members of other faculties who attend the monthly meetings. These are prepared and served by the Institutional Foods Classes in the Campus Tea Room.

Several of the home economics faculty are assisting in the Annual International Night presented by the foreign student members of the Cosmopolitan Club.

There is a senior elective in clothing in which design is applied to the making of childrens' clothes, not children in the abstract but actual nieces and nephews or friends. The clothing for a little red headed girl was an interesting problem.

The students in advanced dietetics are fortunate in having the opportunity to cooperate with the Red Cross nurse in the work with classes of underweight children in three of the public schools. These children are given one-half hour of instruction in diet and general health rules, weekly. The children of one group receive a pint of milk daily; in another small group they receive orange juice as well as milk. The records thus far show a gain in weight of 250 per cent of the expected gain in the group receiving orange juice and milk, 143 per cent of the expected gain in the group receiving milk, as compared with 117 per cent of expected gain in the group receiving instruction only.

The class is also making a study of the dietary habits of several Freshmen girls who are underweight. With the coöperation of the Hygiene, Physical Education, and Nutrition Departments, an effort is being made to improve the physical conditions of these students.

Story County Farm Men and Women were guests of Iowa State College on April 3. They discussed progress of county-wide projects with extension specialists. The clothing project leaders reported progress in their own townships, and were assisted by extension specialists in mapping out future work. The Farm Bureau women are doing an excellent piece of work in carrying out the clothing project which was written by their own committee. The outline of this project is on file in the JOURNAL Office and will be loaned on receipt of 10 cents in stamps.

LOUISIANA

The Louisiana Home Economics Association held a two day session April 7 and 8, with a full program in which many local and general home economics problems were discussed by state workers. Edna N. White of the Merrill Palmer School, Detroit, spoke on Co-operative Agencies and Methods Used in Promoting Home Economics Education, and also presented some very helpful material on nutrition.

The Association voted to affiiliate with the American Home Economics Association. The present membership is 101, but it is hoped to increase the number so that Louisiana will "top" the list in the Southern States. The officers elected are: President, Cleora C. Helbing, Baton Rouge; Vice-President, Minnie Lee Odom, De Quincy; Secretary-Treasurer, Flavia Gleason, Baton Rouge.

NEBRASKA

The Nebraska Home Economics Association was organized last fall and decided to affiliated with the American Home Economics Association. An all day session was held at which Helen Goodspeed of Wisconsin was the chief speaker. The following officers were elected: President, Margaret Fedde, Chairman Department Home Economics, University of Nebraska; Vice-president, Ethel Delzell, Chadron State Normal College; Secretary, Ethel Cline, Omaha High School of Commerce; Treasurer, Belle Mayer, Alvo High School.

University of Nebraska. An annual event in the College of Agriculture, is the Farmers Fair which was held this year on May 6th. A playlet pageant was presented by the women in the Home Economics Department, and demonstrations were given in all the departments.

The students in the Child Nutrition Course are doing case work with malnourished grade

school children. Most of the children come from abnormal homes, and coöperation has been established with the Social Welfare Organization and the Juvenile Court of the city. Progress is slow but the results are gratifying. In another year we hope to add a group of pre-school children and their mothers.

An added responsibility and joy of the students living in the Home Management House is Kathryn Marie, their very young charge. She was five months old when she came into this household very much in need of intelligent care. She is now ten months old, robust, active, and happy, convincing those who were doubtful of the results of this experiment.

Leaders' Training Groups in the making of dress forms, sewing machine attachments, dress construction, and millinery work have been held in several counties by Miss Legg and Miss Harris, clothing and millinery specialists of the Extension Service, College of Agriculture. The delegates to these schools later hold similar demonstrations in their own communities. This is proving to be a successful way of developing local leadership and spreading better clothing instruction.

Miss Atwood, nutrition specialist, is doing nutrition work in hot school lunch and nutrition classes with county Red Cross nurses. A canning budget project is being prepared for various counties.

Mary Ellen Brown, Assistant Boys and Girls Club Leader, and Miss Murphy, Home Health and Hygiene Specialist, are trying out a set of "Keep Well Club" problems in six clubs. Daily Health Habits are encouraged by a special record book, and demonstrations and exercises are practiced.

Miss Murphy is holding Child Welfare Conferences in some communities where there is no resident county nurse. The local doctors give their services and many mothers and babies are reached.

Nebraska Wesleyan University, a denominational College, lays special emphasis upon the training of students for the Ministry, missionary activities, and social service work. The Home Economics Department at present has ninety-two students enrolled, a number of whom are preparing themselves for some definite line of Christian service. They are electing such courses as dressmaking, millinery, house furnishing, and food study, as part of the necessary preparation for the practical side of their social service work.

NEW ENGLAND

The New England Home Economics Association met on Saturday, March 11, at the Boston Public Library Lecture Hall. The Dietitians' Section had charge of the meeting and centered the program around foreign food customs. Bertha M. Wood of the Food Clinic of the Boston Dispensary spoke on "A Study of Racial Customs in Diet." There was an exhibit of foods and kitchen utensils of foreign born people.

A week later the Teachers' Section directed a special meeting where Helen Bridge spoke on "Methods of Teaching the Division of the Family Income."

The association is actively campaigning for a one hundred per cent membership in the American Home Economics Association.

The Massachusetts Institute of Technology Women's Association held a tea March the tenth. Professor Samuel C. Prescott spoke on "How to Make Coffee."

The Graduate School Of Education of Harvard University is ready to offer a course in the Administration of Home Economics Education in the summer session, July 10–August 19, if there are enough students who apply for it. This course will be designed to meet the needs of superintendents, principals, home economics supervisors and teachers, and all others who are interested in studying this important phase of women's education.

A second course for home economics teachers may be offered if the demand warrants. This would cover detailed studies of special phases of Home Economics education, such as: methods of teaching the division of family income, related art in the home economics program, job analyses of home management, and the teaching of child care and development.

Notification of your desire to enroll should be sent *promptly* to Dean H. W. Holmes, Lawrence Hall, Harvard University, Cambridge 38, Massachusetts.

NEW MEXICO

The Circuit Plan Of Vocational Home Economics is proving beneficial to two of the counties of New Mexico. By this arrangement several small rural schools, otherwise unable to provide instruction along this line, are enabled to offer a course in homemaking, taught by a competent instructor.

One of the circuits has five schools; the other four. The teacher spends an entire day each week with each school, giving instruction in actual practice. Supplementary work is given the other four days of the week by the regular teacher in charge.

Service is the keynote of all the work. Many of the girls are of Mexican descent and the instruction given must be fitted to their own particular needs. Work as taught in the average high school would be practically valueless to them, because they could not apply it to their home life. The clothing made is of the simplest, most practical type. In some cases the girls would have been unable to attend school were it not for the dresses of unbleached muslin made by themselves under the instruction of the teacher. In one school aprons were made from flour sacks, attractively bound and appliquéd in colors. The instruction in cooking emphasizes such vegetables, fruits, and meats as are available.

Equipment is elementary, and funds for maintenance of the work are scarce; but the communities are realizing the value of the instruction and Parent-Teacher Associations have donated funds for cooking supplies. The girls have given entertainments to procure money for a sewing machine.

The Home Economics Department of Albuquerque High School has purchased a new hemstitching machine. A charge of five cents a yard will be made until the machine is paid for. Thereafter, its services will be free to the students of the department.

Millinery Clubs have been established through the coöperation of Miss Neiman, instructor of domestic art of the New Mexico A. & M. College, and the county home demonstration agent. Courses of instruction are given in the making and remodelling of hats.

NEW YORK

Teachers College. The departments of nutrition and physiological chemistry of Teachers College have received a grant of $2000 from the Fleischmann Company for a study of breads from the nutritional and vitamine standpoint. Louise Kipp has been appointed on this grant as special assistant.

The department of physiological chemistry is participating in the work on rickets which is being developed by the department of pathology of Columbia University. It has been assigned the task of determining the relative efficiency of some of the sources of phosphorus as they appear in ordinary diets. Results to date show that phosphorus in the form of phytin is only half as efficient as phosphorus in inorganic combinations.

The departments of physiological chemistry and of cookery are cooperating on a series of studies, which have shown to date that cooked cabbage suffers a very serious loss of scurvy protection power as a result of cooking.

The results reported by Dr. Eddy are published in the Proceedings of the Society for Experimental Biology and Medicine.

NORTH CAROLINA

The State Home Economics Association meeting was held in Greensboro, March 24th and 25th. The president, Eunice Chaplin of the Durham High School, presided. The Association voted unanimously to accept the new plan of affiliation, and to increase the state dues in order to have at least one out-of-state speaker at the annual meetings. Three sectional meetings were held: Homemakers and Extension Section, Mrs. Jane S. McKimmon, State Home Demonstration Agent, presiding; Institutional Section, Hope Coolidge, Dietitian at North Carolina College for

Women, presiding; Teachers Section, Blanche Shaffer, Dean of Home Economics, North Carolina College for Women, presiding.

Friday evening the conference was entertained at a banquet at the North Carolina College for Women. Dr. Benjamin R. Andrews of the Home Economics Department of Teachers College, Colombia University, spoke at the general session on Home and Our Ideals in Regard to the Home, and Mollie Peterson of the North Carolina College for Women gave a talk on the Psychology of Dress.

The following officers were elected for the coming year: President, Mrs. Warren H. Booker of Queens College, Charlotte; Vice-President, Louise Moore of the Sanford High School; Secretary and Treasurer, Mrs. Ola Wells, County Home Demonstration Agent, Greensboro; State Councilor, Blanche Shaffer, Dean of School of Home Economics, North Carolina College for Women.

The Vocational Home Economics Teachers met on the day preceding the State Home Economics Association meeting. The State course of study was the main topic under discussion; after a years trial the necessary revisions and adjustments were discussed and plans made to publish it before the beginning of the next school year. Dr. L. B. McBrayer, Director of Bureau of Tuberculosis, State Board of Health, was present at this meeting and talked on Malnutrition of School Children in North Carolina. A number of home economics teachers reported on their plans for linking their class room work in nutrition with the work of the county health nurses by organizing nutrition classes in the grades.

OHIO

The Ohio Home Economics Association held its spring meeting at Columbus, March 25, the president, Mrs. Blanch B. Bowers, presiding. At the morning session Sarah J. MacLeod, Home Economics Department, Society for Savings, Cleveland, gave a practical talk on Budgeting. This was followed by a brief business meeting.

At the afternoon session, Harry H. Howett, Division of Charities, Department of Public Welfare, told of the work the Children's Bureau is doing in Ohio and Mrs. Norma Selbert of the Department of Medicine, Ohio State University, talked on Teaching Hygiene to Children.

The Association has a membership of ninety, and the meetings were well attended.

PENNSYLVANIA

The report of the **Survey of The Public Schools** of Philadelphia by Dr. Finegan, Superintendent of Public Instruction of Pennsylvania, contains the following statements:

"Since eight out of every ten girls in Philadelphia will take up the vocation of homemaking some time in their lives, no educational program is complete that does not make adequate provision for the instruction of these girls along lines which shall fit them for their responsibilities in life.

"In high schools of the city at the present time there are being offered four year curriculums in home economics. This does not meet the needs and there should be offered unit year elective courses for every girl in any curriculum."

At the meeting of the **Philadelphia Home Economics Association** Saturday, April 1, Dr. Walter T. Taggart spoke on the Application of Chemistry to Home Economics.

TENNESSEE

The Tennessee Home Economics Association has recently been organized, uniting the three sections formerly existing in the state. Affiliation with the American Home Economics Association will soon be completed. At the last meeting the following officers were elected: President, Mary Gaut; Vice-president, Bessie Henderson; Secretary, Mrs. Hattie F. Wendel; Treasurer, Carrie G. Scobey.

UTAH

Project Leader Training. The special courses for training project leaders conducted

by the State Extension Service of the Utah Agricultural College during two weeks in January mark another mile-stone in the progress of extension service in coöperation with county and community Farm Bureau organizations in the state.

Forty-two project leaders, representing twenty-eight communities and eight counties, threw themselves eagerly and enthusiastically into the task of learning to "extend extension." Each leader, according to project regulations, was sent as a delegate by her respective organization. She was required to spend full time in concentrated work in at least one and not more than two projects, and to pledge herself upon her return to her community to take the initiative in the development of definite project activities under the further supervision of the state extension specialists and the county extension agents.

The Farm Bureau organization paid the traveling and living expenses of their leaders.

The project courses included Food for the Family, Infant and Pre-school Child Feeding, Clothing for the Family, Costume Design, Home Health and Nursing, Farm Butter and Cheese Making, Poultry Management, Beautification of Home Grounds. Recreation programs were provided each evening. These included lectures, picture-shows, social evenings, community songs, and games.

NATIONAL

Social Service—A Profession. Social service now has a professional organization in the American Association of Social Workers, 130 East 22nd Street, New York. Between fifteen and thirty thousand people in the United States are engaged in some kind of professional social service. In a draft of membership requirements, recently prepared by the new Association's Executive Committee, nearly forty fields are enumerated in which men and women "trained in social science and technique are eligible for admission."

To qualify for senior membership according to the proposals of the executive committee, one must be at least 25 years of age, a college graduate "or have demonstrated by practical achievements an equivalent educational background," and have had four years' experience in social organizations of recognized standing. One or two years in a training school for social work would be equivalent to practical experience for the same length of time. Graduate work in social science is also made equal to one year of practical experience. Provision is made for two other classes of members in which the standards are less strict than for senior members.

Home Canners' Association. Home Economics workers have much in common with the Home Canners' Association which recently held its third annual Convention at the Sherman Hotel in Chicago. The attendance was fair, the program was excellent, and there was a spirit of enthusiasm which augurs well for the future of the organization.

The Home Canners' Association is organized for the purpose of bringing together women interested in home or community canning, gardeners and fruit growers who produce materials to be canned, manufacturers of home canning equipment, extension workers who are interested in the groups that wish to organize to do canning work in the home, and trained people interested in the subject matter involved in successful preservation of foods in the home.

Here is an opportunity for home economics people to make a contribution to groups that want the information they are best prepared to give, i.e., the relation of the canning industry to the proper nutrition of the family, and at the same time to get the most authentic information as to available equipment. The association will hold its next annual convention in Chicago, March 1923. It is hoped that more home economics women will attend.

NOTES

Beulah Coon, state supervisor of Home Economics Education in Arizona for three years, is now head of the teacher training department in the University of Nebraska.

Mrs. Kate Kinyon has succeeded Rose Shonka as Supervisor of Home Economics in the Lincoln public schools. Miss Shonka is now in the teacher training department at Berkeley, California.

REPORT OF THE MEETING OF THE COUNCIL OF THE AMERICAN HOME ECONOMICS ASSOCIATION[1]

CHICAGO, MARCH 1 AND 2, 1922

Present: Mary E. Sweeny, presiding; Ada Field, Faith Lanman, Mildred Weigley, Grace Frysinger, Marie Sayles, Katherine Blunt, Helen Atwater, Margaret Sawyer, Ruth Wardall, Carlotta Greer, Mrs. Mary Bryan, Mrs. Henrietta Calvin, Edna N. White, Minna Denton, Frances Swain, Jenny Snow, Anna Richardson, Nina Streeter, Sybil Woodruff.

In the absence of Lenna Cooper, Louise Stanley acted as secretary. The minutes of the last meeting were read and approved.

Ellen H. Richards Memorial Fund. Report submitted by Dr. Andrews. The Fund shows receipts for the year of $810; expenditures $200 as a contribution to the Constantinople professorship, and a net balance, $6510.04; anticipated income for 1922, $302.29. The $300 that will accrue is to be spent for special lecturers at the Corvallis meeting.

Journal Board. Report submitted by Mrs. Mary de Garmo Bryan. The increase in subscriptions for the year 1921 shows 481 students, 836 regular, or a total increase of 1317. 605 members of the Association do not subscribe to the JOURNAL. Special efforts to secure subscriptions, October–December, 1921: 4355 direct appeals for subscriptions, mailed to individuals; 41 letters and packages of circulars to state associations for subscription campaign; 75 letters with circulars enclosed to heads of home economics departments in colleges; exhibit at American Dietetic Association meeting; samples and circulars sent to state and other meetings; circulars also mailed out with regular correspondence.

Subscriptions received October 18, 1921–January 25, 1922: 1117 new, 441 renewals of those who had been cut off; total 1558, in addition to unexpired renewals.

The financial statement is included in report of Finance Committee. In 1921, 13 issues of the JOURNAL were paid for. If only 12 had been paid for the surplus would have been over $1000 instead of $114.

The Board submitted the following recommendations in regard to the appointment of additional associate editors: Institution Management, Mabel Little, University of Wisconsin, Madison; Home Economics Education, Emma Conley, Albany, New York, to act as co-editor with Miss Winchell, to stress particularly elementary and secondary school interests; Homemaker, appointment left to the Editor of the Journal and the President. Mildred Weigley was appointed.

Legislative Committee. Report submitted informally by Miss Stanley. The Purnell Bill was discussed: the Council voted to endorse it as an agricultural bill, but not as a substitute for the Smoot Bill. The Chairman was requested to ascertain from the promoters of the Purnell Bill the possibility of making the Smoot Bill an amendment to this Bill.

International Committee on Teaching of Home Economics. Report submitted by Helen Atwater. In response to the request of the International Federation of Home Economics Instruction the Committee recommended the appointment of a delegate to the International Congress and suggested Miss Winslow, now in London, as the appointee. A second delegate would be desirable. Requests for contributions to the program were received so late that only one had so far been secured. Material for exhibit is in preparation.

The Committee also recommended the appointment of a home economics representative to attend the meeting of the International Federation of University Women to be held in Paris, July 15–18.

Program. A brief report on the program for the summer meeting submitted by Miss Milam for Miss Davis, chairman. The relation of section programs and general program was discussed. It was the interpretation of the Council that section chairmen were to be responsible for their own programs and the Program Committee was to be responsible for the general meeting.

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[1] Business in full, but only summaries of committee reports.

Finance Committee. Report, submitted by Sarah MacLeod, included Treasurer's report, auditor's statement, budgets, and comments. Receipts of at least $3,000 must be assured if the Association is to function as it should. The 1921 report for the Association shows a deficit of $819.89, due mainly to the cost of publishing the Proceedings of the June meeting and to the $234.57 spent by the Legislative Committee. The operations of the JOURNAL showed a surplus of $114.00. The cost of maintaining and running the office has been kept remarkably low and in practically all these items the expenditures have fallen below the allowances.

SUGGESTED BUDGET FOR 1922

ASSOCIATION

Receipts			*Expenditures*		
Dues	$3,000.00		Salaries	$975.00	
Sales	5.00		Travel	200.00	
		$3,005.00	Meetings	125.00	
			Bulletin and Proceedings	1,000.00	
			Rent	48.00	
			Telephone and telegraph	50.00	
			Postage	100.00	
			Printing, stationery and office expense	150.00	
			Advertising	50.00	
			Committees	100.00	
			Surplus	207.00	
					$3,005.00

JOURNAL

Receipts			*Expenditures*		
Subscriptions	$16,150.00*		Salaries and clerical	$4,400.00	
Numbers	300.00		Travel	300.00	
Reprints	100.00		Rent	192.00	
Advertising	4,000.00		Printing and distribution	14,000.00	
Books	10.00		Telephone and telegraph	50.00	
		$20,560.00	Postage	400.00	
			Printing, stationery and office expense	600.00	
			Advertising	100.00	
			Surplus	518.00	
					$20,560.00

* Based on estimate of 6000 regular subscribers, 1400 students, and $600 discount to agents.

Inter-relation Committee. No report. Emma Winslow, chairman, resigned because of absence from the country. Lydia Roberts was appointed.

Membership Committee. The President reported that this committee had no chairman, that members of the Committee had been canvassed, and that the appointment of a chairman was referred to the Executive Committee.

Research Committee. Report submitted by Dr. Denton. The research committee has initiated the organization of the following sub-committees: (1) Home Economics Research in Food Chemistry and Physiological Chemistry, Agnes F. Morgan of Berkeley, California, chairman; (2) Field Investigations in Nutrition, Elizabeth Roberts of Chicago, chairman; (3) Clothing and Textile Investigations, Grace Denny of Seattle, chairman; (4) Research in Home Economics Education, Anna Richardson, of Washington, D. C., chairman.

Each of these committees shall undertake to outline standards for research in its own field, to suggest research projects in that field, and to abstract or to list unpublished research theses bearing upon its subject matter.

The Research Committee recommends: 1. That the Association endorse the following qualifications as essential in college faculty members who assume charge of, or responsibility for, research work prosecuted by home economics students: Graduate courses and research work equivalent to that required for a doctor's degree, if this be possible, otherwise, one or two years of work in some graduate school of recognized standing, together with evidence of the successful prosecution of original investigation in the form of written or published reports of such investigation; the "research attitude of mind" on the part of the applicant, which this committee considers more important than any formal test of fitness. 2. In case the Association shall see fit to endorse the above recommendation this committee asks that the secretary be directed to send copies of the resolution to presidents or deans of state universities and land grant colleges, and to heads of home economics departments in these institutions.

Publicity Committee. Report by Harriet Mason. Arrangements have been made with the Newspaper Enterprise Association and with the Central Press Association which furnishes copy to local dailies and weeklies in the Mid-West, for their use of some material pertaining to the activities, interests, and personnel of the American Home Economics Association.

The chairman of the special travel committee has agreed to furnish copy to the JOURNAL and data for the general publicity committee. Miss Feike, who assisted Miss Milam in reporting the Colorado Springs Convention, has agreed to direct the publicity of the convention for the press of the Northwest.

The members of the committee have been giving such publicity as they could, in their respective fields, to matters concerning the Association. The federal home economics appropriation bill has been featured.

Regional Committee. Report submitted by Mildred Weigley. The report showed that 16 states had voted to affiliate and 7 had completed all requirements.

The Southern Region wished the Council to consider the following points: Change in the constitution so as to permit nominations from the floor; statement of advantages of affiliation; biennial conferences in the Southern Region to be partially financed by the A. H. E. A.; the Annual Meeting of the A. H. E A. to be held in the South every five years.

Voted that the question of this method of nominating officers be submitted in writing to the National Association a month before the Annual Meeting; that the southern Association be informed that the interpretation at the Swampscott meeting was to the effect that the annual meetings were to rotate regionally; that action on financing meetings be tabled, since the Association is not financially able to make pledges at this time. The Council expressed itself as being in sympathy with the regional meetings.

The committee asked for action in regard to transfer of membership from one state to another and in regard to time at which affiliation fees fall due.

Voted that states make the necessary adjustments for membership in their own states, that memberships run from July 1 to June 30, and that affiliation dues be sent to the National Association not later than January 1.

In discussing advantages of membership through affiliation it was decided that all A. H. E. A committees should work through state associations and that names for state appointments be submitted to the executive committee of the state association for approval. It was also voted to print the Proceedings as an extra number of the JOURNAL if possible.

Executive Secretary. No written report received from the Chairman of the Fund Committee, but in a personal interview Miss Matthews had reported pledges totaling $4000. In response to Miss Matthews' request it was voted that the funds for the Executive Secretary be banked in Lafayette, Indiana, until the annual meeting.

The President emphasized the necessity of assuring financial support, and referred to the question of the term of years and the salary scale.

Voted that a committee of three be appointed to develop a plan for underwriting the salary of the Executive Secretary for two years. The Council considered it undesirable to make any pledge regarding an increase in salary, but agreed that the Executive Secretary would have one month's vacation.

Names suggested by Council members were considered. The choice of the Executive Secretary was again referred to the Executive Committee.

Committee on Standardization of Home Economics Institutions. Report submitted by Miss Atwater. The Committee has been in correspondence with most of the more important accredited agencies. Confusion increases as one looks further into the question. It is clear that the time is ripe for a serious, thorough-going attempt to suggest some uniform statement of what should be expected from institutions of different types in which home economics courses are offered. The Committee sees three possible types of agencies by which such work might be done. I. Association of Professional Workers—in this case the A. H. E. A. Two objections: 1. Personnel of Association is such that work would necessarily fall largely on women very closely associated with the institutions under consideration. 2. To be satisfactory, work will require not only time but also funds. II. Association of Institutions. Method employed by social service schools and recommended to us by Miss Breed. Same objection to it as to I, 2. III. Educational Institutions. Two possible ones, Carnegie Foundation and American Council of Education; latter has committee on college standards. This committee might possibly be willing to undertake the work, in association with persons appointed or suggested by A. H. E. A. Voted that the Committee be directed to communicate with the American Council of Education and report to Miss Nardin before the April meeting of the American Association of University Women.

Travel Committee. Miss Streeter reported the work of the Travel Committee. Voted that the railroads be allowed to use the membership list of the American Home Economics Association, but that material issued should be submitted to Miss Streeter; that they circularize the American Dietetic Association; that they be advised to circularize about the middle of May. The Council disapproved of any expenditure to cover lists of JOURNAL subscribers to be given to the railroads.

Voted that the Travel Committee be enlarged by appointment of members in the states and in large cities and that Miss Streeter be empowered to choose these members at once; that an Advisory Committee be appointed from those members of the Council resident in Chicago.

Suggested that Miss Streeter communicate with the women's divisions of the Associations of Commerce at points included in the western trip.

Committee to Promote the Journal. Report submitted by Miss Kauffman, read by the Secretary. Up to this time there are no results to report as the plans have just been formulated for the following line of procedure: 1. To study definite needs of the JOURNAL, improving

its content so as to be of interest to all groups in the field of home economics. 2. To increase the number of subscriptions. Sub-chairmen have been appointed to work in the following states and regions: Antoinette Roof, Simmons College, New England States; Edith Chace, State College, Pennsylvania; Edna McNaughton, College Park, Maryland; Jennie Bear, Dover, Delaware; Frances Tomer, New Brunswick, New Jersey; Edith Thomas, Raleigh, North Carolina, Southern States, including Southern Home Economics Association and Texas, Arkansas, and Kentucky; Grace P. Gillett, State College for Teachers, Albany, New York; Rachel Colwell, University of West Virginia, West Virginia; Alice Biester, University of Minnesota, Middle West States; Dorothy Shank, Olympia, Washington, Western States. The sub-chairmen will formulate plans for procedure in their states.

Miscellaneous: Voted that a committee of two be appointed to formulate the objectives and a program of work for the Association and that this report be made at the annual meeting.

Mrs. Bryan, Editor of the JOURNAL, requested direction from the Council as to whether the proceedings of this Council meeting should be published in full. Voted that extracts of reports and the business in full should be printed in the JOURNAL.

Voted that the amount of money given by sustaining members be regarded as a contribution and that the usual membership fee is expected in addition.

Voted that, in order to place the present memberships on a regular basis, members be asked to pay the amount due to July 1, 1922, on a pro rata basis of 50 cents per quarter.

Attention was called to the need for certain changes in the Constitution to make the meaning clear. Voted that the rewording of the Constitution be referred to the Executive Committee.

The resignation of Edith Thomas as Chairman of the Committee to Study State Supervision of Home Economics was received with regret. Filling of the vacancy was referred to Miss Snow, chairman of the Home Economics Education Section.

The request of the American Academy of Political and Social Science for three delegates to be sent to their conference in Philadelphia, May 12, was referred to the President with power to appoint the delegates.

The suggestion of Agnes Harris, that the Association have present a representative at the Biennial Meeting of the General Federation of Women's Clubs, to speak three minutes regarding the work of the Association was presented and referred to the President with power to act.

The President reported that the Association has availed itself of the invitation to take part in the Public Health Exhibition, Brooklyn, October 5–14, 1922. At the suggestion of Elizabeth Condit, Pratt Institute, who has been asked to represent the Association in making arrangements, it was voted that the Council request the Home Economics Association of Greater New York to take over this exhibit and to see that the Association was adequately represented. Voted that a Committee on Exhibits be appointed to handle similar requests until the Executive Secretary be appointed.

Voted that Anna Richardson be requested to represent the Association on the Joint Legislative Committee.

Voted that the President be empowered to appoint an alternate for Dr. Ruth Wheeler on the sub-committee on Food and Nutrition of the National Child Health Council.

Voted that the Association advise the discontinuing of the Home Economics Section of the Western Arts Association.

Voted that a committee on tests be appointed as a sub-committee of the Home Economics Education Section.

The Council approved of appointing as representative councilors, Frances Swain, Illinois Home Economics Association; Blanche Shaffer, North Carolina Association; and Mrs. Myrtle Cole, North Dakota Association, affiliation having been completed and the names of their representatives having been submitted in due form by the state associations.